

THIS PERMIT CANCELED  
 263 BECAUSE OF  
 DUPLICATION

No. 426-3

Water Division No. 3

Tanner River District

(Blanks to be filled by the Engineer for the W. R. C.)

FUTURE USE

## APPLICATION FOR/PERMIT

## To appropriate Water within the State of South Dakota

(NOTE—Draw a line through items not applicable.)

1. Name of applicant City of MitchellPostoffice address Mitchell, County Davison, State South DakotaI. If a corporation — Municipal corporation

(a) Name of same

(b) Date and place of incorporation

(c) Amount of capital stock

(d) Amount paid in

(e) Names and addresses of directors Robert Graham, Mayor, Earl Mayhew,Leon Portar, Elmer Sexa, James Lalley, Sidney Thune, Tom Wells,Dr. William Fritz and Clair Larson, Councilmen

(NOTE—A certified copy of articles of incorporation must accompany the application.)

II. Method of accomplishing the work and financial resources of the applicant:

(a) Method of accomplishing work (Whether by contract, employment of others, or by direct labor)

Contract

(b) Cash on hand, \$

(c) Treasury stock, \$

(d) Bonds to be issued, \$

(e) Other resources, \$

2. Name of diversion work Mitchell Water Works3. Amount of water claimed 150 (See letter dated 12/19/60) cubic feet per second4. Source of water supply Firesteel Creek and Lake Mitchell5. Location of point of diversion see exhibit A and Bon south bank Davison County.6. Annual period or periods during which water is to be used continuous

7. To be used for:

I. Irrigation or domestic use: Gravity, overhead sprinkling or combination system?

(a) Number of acres to be irrigated

(b) Legal subdivisions to be irrigated

(NOTE—A list of lands to be irrigated, giving each subdivision and fraction with acreage thereof, should be written here, or may be appended as a part of this application. Same must also be shown on accompanying map.)

(c) Statement as to domestic use (giving location, etc.) by city residents and withincity service area see exhibit C(d) for municipal purposes

II. Stockwatering, mining, milling, power, fish culture, fire protection and public recreation:

(a) Nature of use fire protection, public recreation

Name any of the above uses checked

(b) Amount of power to be generated horse power.

Amount claimed for engine cooling

(c) Location of plant

(d) Method of developing power

(e) Point where water will be returned to stream

Map No. 325-3

8. Estimated cost of work: see exhibit D  
to be estimated at time of development  
(a) Head Gates, \$on all items (b) Pumping plant, \$-----  
(c) Fluming, \$----- (d) Canal-earth, \$-----  
(e) Other structures ----- \$-----  
Rock, \$-----  
Total, \$-----

9. Description of diversion works: see exhibit A  
I. Nature of works: (Reservoir, dam, ditch, flume, pumping plant, etc.)  
to be supplied at the time water is developed

II. Dimensions of works:  
(a) Dam: Height 36 ft. feet; length at bottom 850 feet; length at top 1120 feet; thickness at bottom 192 feet; thickness at top 30 feet; slope at front water face 1 3/4:1 & 3:1; slope at back face 1 1/2:1  
material used in construction rolled earth, sheet piling, wood piling  
(b) Reservoir: Capacity when filled 10,560 acre feet. Surface area at highwater mark 790 acres.

| DEPTH AT OUTLET- FEET | SURFACE AREA AT EACH DEPTH AT OUTLET- ACRES | FEET | ACRE FEET CAPACITY |
|-----------------------|---------------------------------------------|------|--------------------|
|                       | <u>see exhibit E</u>                        |      |                    |
|                       |                                             |      |                    |
|                       |                                             |      |                    |
|                       |                                             |      |                    |
|                       |                                             |      |                    |
|                       |                                             |      |                    |
|                       |                                             |      |                    |
|                       |                                             |      |                    |
|                       |                                             |      |                    |

(c)\* Head gate: Wauwau capacity 10MGD feet; height 16 feet; height 16 feet;  
Material 16 inch cast iron  
(d) Canal: Total length 1.2 miles.

| LOCATION BELOW HEADGATE | DEPTH | BOTTOM WIDTH | WIDTH AT WATER-LINE | GRADE PER MILE |
|-------------------------|-------|--------------|---------------------|----------------|
| At <u>1</u> Mile        | feet  | feet         | feet                | feet           |
| At <u>1</u> Mile        | feet  | feet         | feet                | feet           |
| At <u>1</u> Mile        | feet  | feet         | feet                | feet           |
| At <u>1</u> Mile        | feet  | feet         | feet                | feet           |
| At <u>1</u> Mile        | feet  | feet         | feet                | feet           |
| At <u>1</u> Mile        | feet  | feet         | feet                | feet           |

(Give dimensions where reductions in size are made.)

10. Time required for completion of work 1927 - 29 years, as required.  
11. Time required for complete application of water to the proposed beneficial use 1229 years, as required  
12. Choice of newspaper for publication of notice of intention to appropriate The Daily Republic

STATE OF SOUTH DAKOTA  
County of Harrison ss.

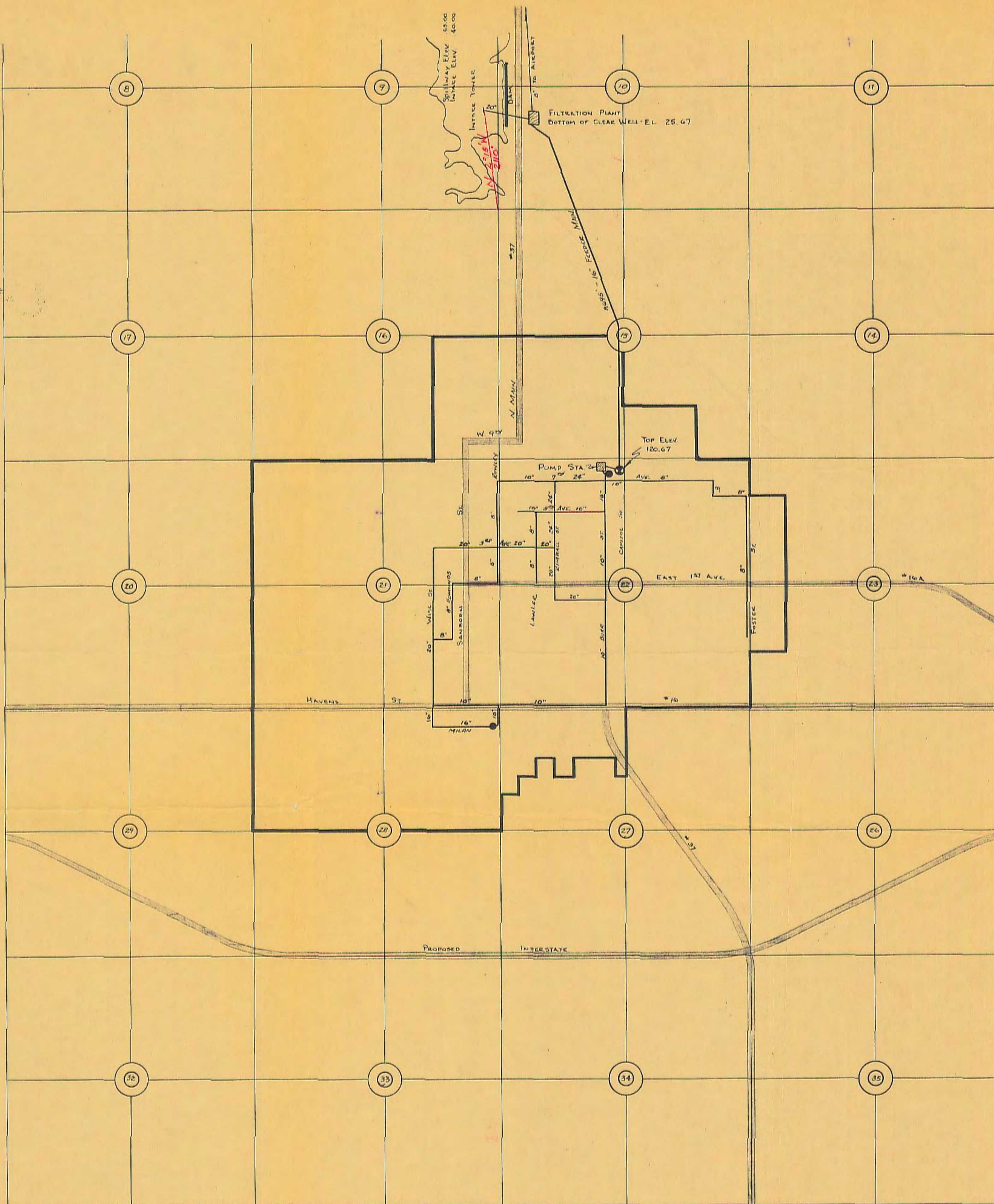
I, Robert M. Graham, being first duly sworn on my oath depose and say: That my relation to the above described undertaking is that of owner, that I have read the above foregoing statement, examined the map accompanying the same, and that I know of my own personal knowledge that the matters therein stated and shown are true.

Signed Robert M. Graham

Subscribed and sworn to before me this 28th day of February, 1927

Margaret Guice  
Notary Public (or other qualified officer.)

\*Each diversion must have a headgate or measuring device.



FEEDER SYSTEM LAYOUT  
WATER SYSTEM  
MITCHELL, S. DAK.

LEGEND:

- 300,000 GAL. ELEVATED STORAGE
- ⊗ 700,000 GAL. SURFACE STORAGE

# LAKE MITCHELL CAPACITY AND SURFACE AREA

OFFICE OF CITY ENGINEER  
1956

CREST OF SPILLWAY AT ELEV. 63 = 0 ON GAUGE  
INLET AT INTAKE TOWER ELEV. 40 = 23 ON GAUGE

SURFACE AREA IN ACRES

% OF CAPACITY

CAPACITY IN ACRE-FEET

CAPACITY  
% OF FULL CAPACITY

SURFACE AREA

CAPACITY IN GALLONS

ELEVATION  
GAUGE

3,258,510,000  
2,932,659,000  
2,606,808,000  
2,280,957,000  
1,955,106,000  
1,629,255,000  
1,303,404,000  
977,553,000  
651,702,000  
325,851,000  
0

Remarks by State Water Resources Commission:

*Vested Right* claimed

STATE OF SOUTH DAKOTA

County of

*Hughes*

ss.

Pierre, South Dakota,

*March 18*, 19*57*

This is to certify that the following application

received by the Commission at

*9:30*

o'clock

a.m. upon the

*6*

day of

*March*

, 19*57*

State Water Resources Commission

By:

*Joe Brimer*

Chief Engineer, Executive Officer

Number of permit

*426-3*

Date of first receipt of application

*March 6*

, 19*57*

Date of return to applicant for correction, amendments or changes required as follows:

*March 18*, 19*57*

Date of receipt of corrected application

*April 26*

, 19*57*

Date from which applicant may claim right

*1927*

, 19*57*

Approved

*May 20*

, 19*57*

Recorded in Book

*4*

Page

*121*

This is to certify that we have examined the foregoing application for a permit to appropriate water of the State of South Dakota, and we hereby grant the same as stated herein, subject, however, to the following limitations and conditions:

1st. The equivalent of at least one-fifth of the work above specified is to be completed on or before

*Completed*

, 19

2nd. The whole of said work is to be completed on or before

*Completed*

, 19

3rd. The limit of time for proof of beneficial use of water appropriated in accordance herewith is

*Completed*

, 19

4th. The water appropriated shall be used for the purpose of

*municipal use*

5th. The prior right of all persons who, by compliance with the laws of the State of South Dakota, have acquired a right to the use of water must not be injuriously affected by this appropriation.

6th. The amount of the appropriation herein granted shall not exceed *12.5* cubic feet per second; neither shall it exceed the capacity of the above described system of diversion works, nor the least amount of water that experience may hereafter indicate as necessary for the production of crops in the exercise of the best husbandry; and further, said appropriation must be limited to not more than one-seventieth (1/70) of one cubic foot of water per second of time for each acre of land to which water is actually *municipal use, used* and beneficially applied for irrigation on or before *Completed*, 19; said water to be used during the following described annual period:

*Continuous*

Witness my hand this

*8*

day of

*July*

, 19*57*

State Water Resources Commission

By:

*Joe Brimer*

Chief Engineer, Executive Officer

Certificate of Construction Issued

*July 8*

, 19*57*

Water License Issued

*July 8*

, 19*57*

This Water License cancels Water License 426-3 issued under date of July 8, 1957 per letter dated December 17, 1960

## STATE OF SOUTH DAKOTA

WATER LICENSE No... 42673...

WHEREAS, On the 6th day of March A. D. 1057

The City of Mitchell.

of Mitchell County of Davidson and State of South Dakota  
 duly made application (No. 426-3) to us for a Vested Right permit to use 19.5

cubic feet per second of the waters of Firesteel Creek

County of Davison, State of South Dakota, for municipal purposes; and

WHEREAS, On the 3th day of July A. D. 1957

~~Vested Right~~ Permit No. 426-3 was issued to said applicant for the diversion of said water, and providing for the completion of the works of diversion therein described ~~XXXXXXXXXXXXXXXXXXXXXXX~~

in 1927 ~~XXXXXX~~ and for the application to beneficial use of said water on ~~XXXXXX~~ in 1927 ~~XXXXXX~~ and,

WHEREAS, On the 21st day of December A. D. 1960  
the holder... of said permit duly made proof of the completion of adequate works for the diversion of 15.0

----- cubic feet per second of said waters, as evidenced by our Certificate No. 126-3 -----  
dated January 6, 1961 ----- confirming the completion of works of sufficient capacity for  
diverting and conveying to the place of intended use 15.0 ----- cubic feet per second of water, with date of  
priority of 1927 ----- and, ----- xxx -----

WHEREAS, On the 21st day of December A. D. 1960  
proof was duly made of the application to beneficial use of 15.0 cubic feet per second of said water;  
through the City of Mitchell distribution system.

NOW, THEREFORE, By the virtue of the authority vested in us by the laws of the State of South Dakota,  
We hereby grant and confirm to the City of Mitchell Vested Right  
of Mitchell, South Dakota the holder and owner of said permit No. 426-3  
a water right, dating from 1927 to the use of 15.0  
cubic feet per second of the waters of Firesteel Creek  
In the County of Davison and State of South Dakota, or so much thereof as may be  
necessray for the purposes hereinbelow mentioned, to be diverted at a point 2110', N 2° 15' W  
of the SE Corner, Sec. 9, T-103-N, R-60-W  
and conducted to and upon ~~xxxxxx~~ through the City distribution system

for the purpose of municipal use

subject, however, to the laws of the State of South Dakota applicable to a license for the use of the waters of the State, and subject, also to the local or community customs, rules and regulations which have been or may be adopted from time to time by a majority of the users from a common source of supply, canal or lateral from which such water may be taken, when such rules and regulations have for their object the economical use of such water.

WITNESS, My hand and seal of our office at Pierre, South Dakota,  
this 6th day of January A. D. Nineteen  
Hundred and sixty-one

State Water Resources Commission

By:

**J. W. GRIMES,**

Chief Engineer, Executive Officer

STATE OF SOUTH DAKOTA

Water License No. \_\_\_\_\_

To \_\_\_\_\_

Source of Supply \_\_\_\_\_

County \_\_\_\_\_

Am't \_\_\_\_\_ c. f. s.

Point of Diversion \_\_\_\_\_

Place of Use \_\_\_\_\_

Purpose \_\_\_\_\_

Date of Priority \_\_\_\_\_

Recorded \_\_\_\_\_

In Book \_\_\_\_\_ of \_\_\_\_\_ Page \_\_\_\_\_

Cancels Certificate of Completion of Works  
issued July 8, 1957 per letter dated December 17, 1960

Form No. 20.

Permit No. 426-3

James River  
Water Division No. 3 Water District

Certificate of Completion of Works

TO ALL WHOM IT MAY CONCERN:

This is to Certify, That The City of Mitchell  
of Mitchell, County of Davison, and State of  
South Dakota, the holder Vested Right  
of Permit No. 426-3, issued upon Application  
No. 426-3, bearing date of priority of 1927, authorizing the diversion of  
19.5 cu. ft. per second of the waters of Firesteel Creek  
County of Davison, State of South Dakota, at a point 2110'  
N 2° 15' W of the SE Corner Sec. 9, T 103 N. R 60 W.  
for municipal  
purposes, has fully complied with the provisions of the laws of the State of South Dakota relating to proof of  
completion of the works of diversion set out and described in said Permit; that said works are recognized as  
xxxx in satisfactory  
condition for diverting and conveying to the place of intended use 15.0 cu. ft.  
per second of water; and that the lands proposed to be irrigated by the use of said water are described as follows,  
to-wit: To be used to supply municipal needs for the City of  
Mitchell.

Witness my hand and seal this 6th day of January A. D. 1961

State Water Resources Commission

By:

J. W. GRIMES,

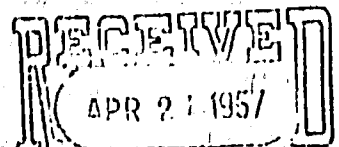
Chief Engineer, Executive Officer

Location No. 426-3

Water Division No. 3

James River

Water District



STATE WATER RESOURCES COMMISSION  
PIERRE, SOUTH DAKOTA

## Proof of Application of Water to Beneficial Use

### PETITION OF HOLDER

Quer. 1. State your name, residence, occupation and postoffice address.

Ans. City of Mitchell, a Municipal Corporation, Mitchell, S. Dak.

Quer. 2. If acting in behalf of a corporation, state its name, principal place of business (if a foreign corporation, give name and postoffice of statutory agent,) your position with reference to same, and your authority for appearing in its behalf.

Ans. L. R. Porter, Acting Mayor

Quer. 3. State date of posting and date of recording notice of appropriation.

Ans. See application

Quer. 4. State source of water supply and give exact location of point of diversion.

Ans. See application

Quer. 5. Describe your works of diversion giving length and height of each dam and state amount of water they are capable of conveying from point of diversion to place of use, and give name of canal or ditch or other works by which water is conducted to such place of use, and date of completion of same.

Ans. See application

Quer. 6. State for what purpose water is used and describe place of use. (If for irrigation, name each subdivision in which used, and number of acres in each subdivision that have ACTUALLY been irrigated with said water.)

Ans. See application

Quer. 7. If for other than irrigation purpose, state how applied, amount of horse power generated, etc.

Ans. See application

Quer. 8. What is the minimum amount of water required for the use specified above?

Ans. See application

Quer. 9. If you are not the person or representative of the corporation to whom above mentioned permit was originally issued, please state how ownership was acquired by present holder.

Ans.

Ques. 10. State when, how, in what amount and to what extent, the water diverted under above mentioned permit has been used.

Ans. In 1927 the existing dam located 1/2 mile north of the City of Mitchell was erected across Fire Steel Creek for the purpose of furnishing public water supply for the City of Mitchell. In 1929 the water was pumped into municipal water system and continually used since then. The amount of water used - 19.5 cubic feet per second.

(Sign) R. Porter

I hereby certify that the foregoing testimony was read to the above subscriber before its signing, that I believe him to be the person he represents himself to be, and that said testimony was subscribed and sworn to before me, at my office in Mitchell, County of Dakota

State of South Dakota, on this 27 day of March A. D. 1927

Margaret G. Galt  
Marion R. Heik } Witnesses.

Margaret G. Galt  
Notary Public

I, the undersigned, do hereby certify that I am a duly qualified elector residing in the immediate vicinity of the diversion works designated in the foregoing testimony, that I have no interest in the works, water or land above described, that I have read the foregoing testimony and that I know of my own personal knowledge that the matters therein stated are true.

H. T. Galt  
Marion R. Heik

|                    |                                                    |                    |                                   |              |              |               |                    |                         |                          |
|--------------------|----------------------------------------------------|--------------------|-----------------------------------|--------------|--------------|---------------|--------------------|-------------------------|--------------------------|
| Location No. ----- | PROOF OF APPLICATION OF<br>WATER TO BENEFICIAL USE | PETITION OF HOLDER | Amount of Water -----<br>c. f. s. | Source ----- | County ----- | Purpose ----- | Place of Use ----- | Date of recording ----- | Received and filed ----- |
|--------------------|----------------------------------------------------|--------------------|-----------------------------------|--------------|--------------|---------------|--------------------|-------------------------|--------------------------|

December 12, 1953

Mr. Stanley Bales  
City Engineer  
City Hall  
Mitchell, South Dakota

Dear Mr. Bales:

This will confirm our recent discussions concerning water rights for municipal water use by the City of Mitchell.

When checking the beneficial use of water by the City under "vested right" Permit and Water License (126-3), it was found that the diversion of 19.5 cubic feet per second of water is much in excess of the capacity of the City's water works which I understand is 3200 gallons per minute. For municipal water rights the maximum capacity of the water works is considered to be the amount of water beneficially developed, exclusive of "future use" withdrawals of water Permits which a city may have acquired. Apparently, the 19.5 cubic feet per second specified in Permit and Water License (126-3) was an error. In order to correct the record, I suggest that the 19.5 c.f.s. be changed to 7.20 c.f.s. in the Permit and Water License. The 7.20 c.f.s. provides full capacity for the present 2-1600 g.p.m. pumps plus evaporation losses in the reservoir. If this is satisfactory please change your copies of the Permit and Water License (126-3) and advise me.

A similar condition to that cited above is associated with the City's application (127-3) for a future use withdrawal Permit. In this application the City requests 60 c.f.s. additional water for future use. The water laws provide that future use withdrawals for municipalities be limited to their "reasonable" needs. The Water Resources Commission is administering the word "reasonable" to be about twice the City's present ability to divert water. Considering the present ability to divert, as proposed for correction under Permit and Water License (126-3), the future use withdrawal Permit should specify 15 c.f.s. instead of the 60 c.f.s. requested. Please advise if the City officials object to this reduction.

h26-3, h27-3

2.

Mr. Stanley Sales

December 19, 1958

I believe that the amounts of water requested in both applications were the results of arithmetical errors. They seem obviously out-of-line with requirements. However, if I have overlooked significant factors, the Commission and I will be pleased to consider them.

Sincerely,

J. W. GRITS  
Chief Engineer

JWG:lt

## WHITE LAKE

## AURORA COUNTY

At their March 1954 meeting the Commission asked for a report on the diverting of water from Firesteel Creek into White Lake.

Brief History. White Lake is located four miles north and one mile west of the City of White Lake. It is a lake of around 2000 acres, depending upon the height of the water.

In 1926 the lake went completely dry. The State and Aurora County had plans prepared for the construction of a diversion system to divert water from Firesteel Creek into the lake.

The plans included the following:

1. Construction of the diversion ditch about 3 miles long from Firesteel Creek to the lake, including diversion ditch gates.
2. Obtaining easements around the lake to allow the lake to have a maximum depth of about between 5 and 6 feet.
3. Construct an outlet ditch to prevent the lake from having more than the five or six foot depth.
4. Construct the bridges on public roads crossing the ditches.

The diversion ditch was constructed. Easements were obtained on about 300 acres adjoining the lake. The plans called for easements on about 700 acres of land around the lake. The outlet ditch was not constructed because necessary easements could not be obtained from the property owners along the ditch. Aurora County constructed the necessary bridges. In 1927 the depth of the lake was approximately one foot. However, in a written report it was conceded this water was due to runoff from natural tributary water courses and the diversion ditch did not function effectively.

Since 1927 there have been many plans to improve, enlarge and alter the original diversion ditch. Some easements for these changes have been obtained. The South Dakota Department of Game, Fish and Parks in 1946 prepared plans to enlarge the ditch, but did not obtain all the necessary easements.

Some minor changes were made, but up until 1951 the ditch never was effective in carrying water to White Lake.

In 1951 the township supervisors, feeling the ditch caused additional flooding of the township road and private land without helping White Lake, had the ditch entrance plugged.

Ditch Inlet. Our maps show about 44 sections of land lying above the point of

diversion on Firesteel Creek. In addition the ditch intercepts about 11 sections of drainage that otherwise would miss the lake.

Discussion of the water available per average year is misleading. One year with the same amount of precipitation as another year will result in many times as much runoff. However, there isn't much of any way to show the picture except by average years.

The rainfall in that area averages somewhat over 20 inches per year. Ordinarily at least 20% of the precipitation is considered to be runoff. This would result in about 5 foot raise of the level of White Lake. It would be impossible to get all this water into White Lake, but it does show there is a potential source of water.

The existing intercepting system into the existing ditch is very poor. It consists merely of a ditch leading into the creek channel at a 90 degree angle. I doubt if this intercepting system, disregarding the diversion ditch capacity, could force 10% of the runoff through the diversion ditch.

If a serious attempt were to be made to divert a large percent of the runoff, three things are necessary at the ditch inlet:

1. Construction of a diversion dam.
2. Construction of a diversion gate.
3. Obtaining of a water right authorizing the diversion system.

The construction of the diversion dam would require easements or ownership of the land involved.

It is anticipated the obtaining of the water right would be difficult.

Diversion Ditch. To obtain enough of the runoff to supply White Lake with around two feet of water per average year would require a ditch capable of carrying around 700 cu. ft. per second. I doubt if the present ditch can carry 50 cu. ft. per second. This would require a diversion ditch approximately 12 feet deep in places, 30 feet wide at the bottom with side slopes of 4 to 1.

The ditch would have six section line crossings. The present ditch has five bridges crossing it. All crossings would require major bridge rebuilding or new bridges. Some proponents of the White Lake diversion believe the county would be responsible for providing the necessary crossings.

The existing diversion ditch goes through a shallow flat area that is nearly a lake bed. The lake bed is fed by the above-mentioned 11 sections of land that the ditch intercepts. The flow through the ditch is westerly and the natural flow through the lake bed is easterly.

This makes it rather difficult to construct a channel that will carry the water without either flooding the lake bed or damming up the easterly drainage by the use of dikes. Perhaps the best answer in this case would be to pur-

chase additional land and let it be flooded. This is one of the places where an easement could not be obtained.

White Lake Basin. When White Lake was inspected the first part of June it had an approximate maximum depth of 4 feet.

The natural outlet level of the lake was about 7 feet higher than the lake level.

When the plans were prepared in 1926, easements were obtained on about 300 acres of the 700 acres necessary to raise the lake to have a depth of about six feet. Two additional feet were allowed for freeboard when water was flowing out of the proposed outlet ditch.

I believe if an effective effort is to be made to raise the level of White Lake this outlet ditch has to be constructed. If easements could be obtained to have a depth in the lake of 6 feet, the lake would be filled to this level and the diversion gates would then be closed. However, the lake has been known to fill before without a diversion into it. If a heavy runoff from the existing tributaries into the lake caused an additional flooding of 2 to 5 feet, perhaps landowners would claim damages because of the contribution of the diversion ditch in filling the first six feet.

This brings up an additional problem. If the outlet ditch is constructed and functions, it will force water to flow into an entirely different drainage area. I believe there would be objections from the landowners in this watershed.

Under existing State laws I have an idea that to legally and effectively raise the lake the formation of a Drainage District would be necessary.

One factor which I do not know of being investigated is the possible loss of water in the lake basin due to seepage into a sand strata. This is probably not serious, but I believe it should be checked if an effort is going to be made to raise the lake level.

I do not believe it is practical to consider raising the lake level so as to have a depth greater than 6 or 7 feet at the most. Land acquisition and fluctuating levels above this 6 or 7 feet make a higher level impractical.

It seems to me the main reason for attempting to raise the level of White Lake is to create a better fishing lake. In average years it has sufficient water to be quite famous as a hunting lake. I am not sure what raising the level of the lake would do for the hunting, or the fishing at the lake. If the lake were raised high enough to permanently support fish, I do not believe it possible to prevent carp from entering through the diversion ditch.

The plans prepared by this Department in 1926 proposed enlarging the canal so as to have a channel bottom of 10 feet, an effective depth of 3 feet and 4 to 1 side slopes. It included deepening the existing channel in some places.

The estimate of the construction cost, not including bridges, was \$31,440.54. If an outlet ditch were necessary, a rough estimate of the cost is \$15,000.00. This, going on average year basis, might add somewhat less than a foot of water to the lake in a year.

To develop the ditch to carry 1000 second feet of water would cost more than \$100,000.00, I believe.

#### Conclusion

1. The existing ditch between Firesteel Creek and White Lake in Aurora County has not been effective in the raising of the lake level.
2. It appears there is enough water available annually in Firesteel Creek at the diversion point to contribute considerably to the raising of White Lake level.
3. There are many problems involved in moving the water from the Creek to the lake and storing in the lake. These problems include:
  - A. Obtaining water rights.
  - B. Construction of the inlet ditch so as to be effective.
  - C. Obtaining easements for the inlet ditch.
  - D. Obtaining easements for raising of the lake level.
  - E. Obtaining easements for a outlet ditch.
  - F. Legal right in causing water to run out the outlet ditch.
4. A question exists as to the increase in the value of the lake at its level during average years as compared to a raised level.

Recommendation. There are many obstacles in the way of raising White Lake by diverting water into it from Firesteel Creek. I believe if it were agreed and beyond question that the raising of White Lake level were advisable, that one, of, or a combination of the obstacles would prevent the Department from legally doing so.

It is recommended that no consideration be given to the raising of the White Lake level for the immediate future.

EDWARD K. MATHER, C. E.  
MANAGING ENGINEER

DAKOTA ENGINEERING COMPANY

CONSULTING CIVIL ENGINEERS

MITCHELL, S. D.

August 4, 1959

State Water Resources Commission  
Pierre, South Dakota

Attention: Joe Grimes

Gentlemen:

I am very glad to have your further comment as to interpretation affecting water rights in South Dakota.

A further check up of the James River east of Mitchell shows that the water from the city sewer plant effluent backs up to the dam south of highway 16 a distance of nearly 1,000 ft and we find at this time it drops between water above the dam and the water below the influence of the dam is little over 4 ft.

We find that evaporation and seepage at White Mills Dam has lowered that some-what as it has lowered the water level at the highway 16 dam and in the river west of Nugents 6 miles north of Mitchell. We find that it will be comparatively easy and cheap to put in a marshole opposite the end of the old White Mill Dam and connect it to free water above and below the dam so that a given amount of water can be measured and controled in flow to maintain the minimum flow you wish to maintain below the dam if some of the stored water above the dam is removed for irrigation. In determining the amount of water to pass the dam, it seems to me that the amount should take into account the distance between the dam in question and the one downstream as well as the inflow from tributary streams and cities. We find sizable inflow from Firesteel Creek which enters the James River approximately 300 ft. up-stream from the Mitchell city sewer effluent.

If the distance between dams is less than 15 miles without substantial inflow from tributaries you no doubt will want the full amount of water to be-pass the dam which affects the stored water that may be pumped for irrigation. If there is a lesser or greater distance than 15 miles what affect will this have upon the required amount of water that is to by-pass the down-stream dam? If it is a tributary stream fed by springs or otherwise below the dam what provision will be made for determining the flow and for making suitable adjustments in the amount of water which is permissible to take from the stored water above the dam.

I have found another owner without a water right that has two cuttings on a crop of alfalfa on a certain land in the James River bottom and a complete failure of corn and grain land in adjacent similar elevation areas but find water holes on said land that have no visable connection to the river that I believe could be used as basis for a water right application.

RECEIVED  
AUG 6 1959

STATE WATER RESOURCES COMM.  
PIERRE, SOUTH DAKOTA

426-3

city of Mitchell w/r

17  
708 E. THIRD AVE.

Joe Grimes

2

August 4, 1959

I would like to have your comment on the point as well as on the other questions raised above.

Respectfully yours,

DAKOTA ENGINEERING COMPANY

By

*Edward K. Mather*

Edward K. Mather

EKM:dm

STATE OF SOUTH DAKOTA

WATER LICENSE NO. 426-3

WHEREAS, On the 6th day of March A.D., 1957, The City of Mitchell of Mitchell, County of Davison and State of South Dakota duly made application (No. 426-3) to use for a vested right permit to use 19.5 cubic feet per second of the waters of Firesteel Creek County of Davison, State of South Dakota, for municipal purposes; and

WHEREAS, On the 8th day of July A.D., 1957, vested right Permit No. 426-3 was issued to said applicant for the diversion of said water and recognizing completion of the works of diversion therein described in 1927 and application to beneficial use of said water in 1927 and,

WHEREAS, On the 24th day of April A.D., 1957, the holder of said Vested Right permit duly made proof of the completion of adequate works for the diversion of 19.5 cubic feet per second of said waters, as evidence by our Certificate No. 426-3 dated July 8, 1957 confirming the completion of works of sufficient capacity for diverting and conveying to the place of intended use 19.5 cubic feet per second of water, with date of priority of 1927 and,

WHEREAS, On the 24th day of April A.D., 1957, proof was duly made of the application to beneficial use of 19.5 cubic feet per second of said water; in the distribution system of the City of Mitchell

NOW, THEREFORE, By the virtue of the authority vested in us by the laws of the State of South Dakota, We hereby grant and confirm to the City of Mitchell of Mitchell, South Dakota the holder and owner of said Vested Right permit No. 426-3 a water right dating from 1927 to the use of 19.5 cubic feet per second of the waters of Firesteel Creek in the County of Davison and State of South Dakota, or so much thereof as may be necessary for the purposes hereinbelow mentioned, to be diverted at 2110 feet, N 20° 15' W of the SE Cor., Sec. 9, T 103 N, R 60W and conducted to the residents of the City of Mitchell through the municipal distribution system. for the purpose of municipal use subject, however, to the laws of the State of South Dakota applicable to a license for the use of the waters of the State, and subject, also to the local or community customs, rules and regulations which have been or may be adopted from time to time by a majority of the users from a common source of supply, canal or lateral from which such water may be taken, when such rules and regulations have for their object the economical use of such water.

WITNESS, My hand and seal of our office at  
Pierre, South Dakota, this 8th day of July,  
A.D. Nineteen Hundred and Fifty Seven,  
State Water Resources Commission  
By J. W. Grimes, Chief Engineer,  
Executive Officer

\*\*\* DUPLICATE \*\*\*

STATE OF SOUTH DAKOTA

WATER LICENSE No.... 426-3...

Cancelled by  
WATER LICENSE  
426-3 ISSUED  
1-6-61

WHEREAS, On the 6th day of March A. D. 1957

The City of Mitchell

of Mitchell County of Davison and State of  
South Dakota duly made application (No. 426-3) to us for a Vested Right  
permit to use 19.5  
cubic feet per second of the waters of Firesteel Creek  
County of Davison, State of South Dakota, for municipal purposes  
purposes; and

WHEREAS, On the 8th day of July A. D. 1957  
Vested Right recognizing  
/Permit No. 426-3 was issued to said applicant for the diversion of said water, and ~~providing for the~~  
completion of the works of diversion therein described ~~xxxxxxx~~ ~~the~~ ~~xxxxxx~~  
in 1927 ~~xxxxxx~~ and ~~xxxxxx~~ application to beneficial use of said  
water ~~on or before~~ the ~~xxxxxx~~ of in 1927 ~~xxxxxx~~  
and,

WHEREAS, On the 24th day of April A. D. 1957  
Vested Right  
the holder of said permit duly made proof of the completion of adequate works for the diversion of 19.5  
cubic feet per second of said waters, as evidenced by our Certificate No. 426-3  
dated July 8, 1957 confirming the completion of works of sufficient capacity for  
diverting and conveying to the place of intended use 19.5 cubic feet per second of water, with date of  
priority of 1927 and, ~~and~~

WHEREAS, On the 24th day of April A. D. 1957  
proof was duly made of the application to beneficial use of 19.5 cubic feet per second of said water;  
in the distribution system of the City of Mitchell

NOW, THEREFORE, By the virtue of the authority vested in us by the laws of the State of South Dakota,  
We hereby grant and confirm to the City of Mitchell Vested Right  
of Mitchell, South Dakota the holder and owner of said permit No. 426-3  
a water right, dating from 1927 to the use of 19.5  
cubic feet per second of the waters of Firesteel Creek  
in the County of Davison and State of South Dakota, or so much thereof as may be  
necessary for the purposes hereinbelow mentioned, to be diverted at 2110 feet, N. 20 15' W  
of the SE Cor1, Sec. 9, T 103 N, R 60 W  
and conducted to ~~and~~ the residents of the City of Mitchell through  
the municipal distribution system.

for the purpose of municipal use

subject, however, to the laws of the State of South Dakota applicable to a license for the use of the waters of the State, and subject, also to the local or community customs, rules and regulations which have been or may be adopted from time to time by a majority of the users from a common source of supply, canal or lateral from which such water may be taken, when such rules and regulations have for their object the economical use of such water.

WITNESS, My hand and seal of our office at Pierre, South Dakota,  
this 8th day of July A. D. Nineteen  
Hundred and Fifty-seven

State Water Resources Commission

By:

J. W. GRIMES, Chief Engineer, Executive Officer

C O P Y

STATE OF SOUTH DAKOTA

Water License No. -----

To -----

Source of Supply -----

County -----

Am't ----- c. f. s. -----

Point of Diversion -----

Place of Use -----

Purpose -----

Date of Priority -----

Recorded -----

In Book ----- of ----- Page -----

Vested Right Permit No. 426-3

River

Water Division No. 3 James Water District

## Certificate of Completion of Works

TO ALL WHOM IT MAY CONCERN:

This is to Certify, That the City of Mitchellof Mitchell, County of Davison, and State of South Dakota, the holder of Permit No. 426-3, Issued upon ApplicationNo. 426-3, bearing date of priority of 1927, authorizing the diversion of19.5 cu. ft. per second of the waters of Firststeel CreekCounty of Davison, State of South Dakota, at 2110 feet,N2° 15' W of the SE Cor., Sec. 9, T 103 N, R 60 Wfor municipalpurposes, has fully complied with the provisions of the laws of the State of South Dakota relating to proof of completion of the works of diversion set out and described in said Vested Right Permit; that said works are found in satisfactory condition for diverting and conveying to the place of intended use 19.5 is cu. ft.per second of water; ~~the use of said water for municipal purposes~~ the use of said water is described as follows,to-wit: for municipal purposes in the distribution system of the City of Mitchell.Witness my hand this 8th day of July A. D. 1957

State Water Resources Commission

By:

J.W. GRIMES,

Chief Engineer, Executive Officer

January 23, 1961

Mr. Martin Osterhaus, Mayor  
City of Mitchell  
Mitchell, South Dakota

Dear Mayor Osterhaus:

Enclosed herewith are your corrected Certificate of Completion of Works and Water License No. 426-3, establishing your vested right record.

Under this correction we have reduced the 19.5 cfs figure shown in the original water license to 15 cfs, to bring it into conformity with the actual beneficial water use as of June 30, 1955, as agreed upon by the City officials in a meeting with Mr. Driscoll, Mr. St. Onge and Mr. Brady, and in agreement with your letter of December 17, 1960.

Recognition of this "vested right" permit in the amount of 15 cfs with a priority of 1927, creates a duplication with Permit 26-3 in the amount of 12 cfs, issued to the City by the State Engineer under date of May 16, 1941. To eliminate this duplication and put your water right record in order, we hereby cancel Permit 26-3.

Sincerely,

J. W. GRIMES  
Executive Officer

JWG:16  
Enc's.

EXHIBIT "D"

8. Estimated cost of work:

The following item of cost as listed at their respective costs when constructed.

1. Head Gate or Intake Tower - \$11,000.00.
2. Fluming or 20" GIP Line from Intake Tower to Filtration Plant - \$8,500.00.
3. Filtration Plant and Pumping Station  
Filtration Plant - \$500,000.00.  
Pumping Station - \$ 90,000.00.
4. Force Main into City - \$85,000.00.

# Lake Mitchell Elevations - Weekly Check

O.O. Elevation is Spillway Elevation

|         |        |      |      |           |
|---------|--------|------|------|-----------|
| 3-22-76 | -8.0'  | Wind | S-SW | 15 mph    |
| 3-29-76 | -8.04  | "    | NE   | 15 mph    |
| 4-5-76  | -8.12' | "    | NE   | 0-5 mph   |
| 4-26-76 | -7.95  | "    | SE   | 0-5 mph   |
| 5-4-76  | -7.71  | "    |      | 0 mph     |
| 5-10-76 | -7.51  | "    |      | 0 mph     |
| 5-17-76 | -7.55  | "    |      | 4-5 mph   |
| 5-24-76 | -7.04  | "    |      | 5 mph     |
| 6-1-76  | -6.74  | "    | SE   | 0-4 mph   |
| 6-8-76  | -6.69  | "    | SE   | 5-10 mph  |
| 6-14-76 | -6.61  | "    | SE   | 10-15 mph |
| 6-21-76 | -6.63  | "    | SE   | 15 mph    |
| 6-29-76 | -6.51  | "    | NE   | 50 mph    |
| 7-7-76  | -6.59  | "    |      | 0 mph     |
| 7-17-76 | -6.59  | "    | SE   | 0-5 mph   |
| 7-20-76 | -6.86  | "    |      | 0 mph     |
| 7-26-76 | -7.05  | "    |      | 0 mph     |
| 8-2-76  | -7.76  | "    | SE   | 0-5 mph   |
| 8-10-76 | -7.55  |      |      | 0 mph     |
| 8-16-76 | -7.74  | "    | SE   | 0-5 mph   |
| 8-24-76 | -8.04  | "    | SE   | 0-5 mph   |

# Lake Mitchell Elevations -- Weekly Check

0.0 Elevation is Spillway Elevation

|          |        |             |         |
|----------|--------|-------------|---------|
| 9-13-76  | -8.56' | Wind-NW     | 0-5 mph |
| 9-21-76  | -8.81  | No Wind     |         |
| 9-29-76  | -8.87  | No Wind     |         |
| 10-6-76  | -9.01  | No Wind     |         |
| 10-19-76 | -9.27  | Wind-NW     | 0-5 mph |
| 11-10-76 | -9.60  | Wind-NE     | 0-5 mph |
| 11-29-76 | -9.83  | Frozen over |         |
| 12-14-76 | -10.00 | "           | "       |
| 12-28-76 | -10.10 | "           | "       |
| 1-7-77   | -10.20 | "           | "       |
| 1-21-77  | -10.38 | "           | "       |
| 3-2-77   | -10.56 |             |         |
| 3-14-77  | -8.31  |             |         |
| 3-15-77  | -5.87  |             |         |
| 3-16-77  | -4.04  |             |         |
| 3-17-77  | -3.26  |             |         |
| 3-18-77  | -2.85  |             |         |
| 3-21-77  | -2.18  |             |         |
| 3-22-77  | -2.16  |             |         |
| 3-24-77  | -2.00  |             |         |
| 3-25-77  | -2.00  |             |         |
| 3-28-77  | -1.78  | Wind        | 5 mph   |
| 3-31-77  | -1.50  |             |         |

|         |       |           |
|---------|-------|-----------|
| 4-6-77  | -1.04 | Wind-Saph |
| 4-12-77 | - .78 |           |
| 4-18-77 | -.46  |           |
| 4-20-77 | -.12  |           |
| 4-21-77 | -.06  |           |
| 4-22-77 | -.12  |           |

426-3

 **Department of  
Water & Natural Resources**  
Jon Foss Building      Water Rights, Water Management Division  
Pierre, South Dakota 57501      (605) 773-3352

March 24, 1980

Lyle Kinport, Council Member  
City of Mitchell  
Mitchell, SD 57301

Dear Mr. Kinport:

Reference is made to your inquiry regarding the City of Mitchell's water rights on Firesteel Creek.

Water License No. 426-3 (1927 priority date) authorizes the City of Mitchell to store 10,560 acre feet of water in Lake Mitchell and to divert up to 15.0 cubic feet per second of the flows of Firesteel Creek.

It would appear from the correspondence in the file that as long as inflows into the lake equal the 15.0 cfs, the City has the right to divert this amount of water without relying on the stored water.

If you have any further questions, feel free to contact this office.

Very truly yours,

JOHN HATCH, Chief Engineer  
Water Rights, WMD

BEJ/JH/cy

*Equal Opportunity Employer*



# Department of Water & Natural Resources

Joe Foss Building  
523 East Capitol  
Pierre, South Dakota 57501

Water Rights Division  
605 773-3352

September 9, 1983

Larry Little, P.E.  
City Engineer  
PO Box 278  
Mitchell SD 57301

Dear Mr. Little:

This will acknowledge your letter regarding a proposed Estabrook application for an irrigation permit in Aurora County for water from a tributary of Firesteel Creek. If the application is approved, it would be subject to both the City of Mitchell's present water rights and future use permit for Firesteel Creek water and downstream livestock water.

For example, no water could be pumped each year until the City's Dam was full. We have not completed our review of the application. The letter you wrote to the Conversation Division was in regard to Estabrook's application for soil-water compatibility approval. The soil-water approval becomes a part of the water permit application. If the application is approved the permit would be to withdraw up to 300 gpm when there was flow in the tributary channel that crosses the Estabrook center pivot area before flowing into Firesteel. If the Mitchell dam had filled and water was flowing in Firesteel, Estabrook would be able to pump water to his existing storage dam. If Firesteel had no flow, then any flows in the tributary would have to be by-passed for downstream domestic use.

The application was made because Estabrook already has the pump and the cost of completing this project is minimum. The expected water yield will be limited.

When the report for the application and the required Chief Engineer's recommendation are completed, we will send copies to you. If I recommend approval it will be because Mitchell's water rights will not be adversely affected and with qualifications to assure that there will be no impairment of Mitchell's rights or of water for domestic livestock use.

Estabrook still has another deferred application for water from Firesteel Creek on file that is not involved in the new application. Please let me know if you have any questions.

Very truly yours,

JOHN HATCH, Chief Engineer  
Water Rights Division

JH:ks

426-3

M E M O

TO: Water Permit File No. 426-3, City of Mitchell  
FROM: Kevin C Larson *KCL*  
SUBJECT: New Water Treatment Plant for City of Mitchell  
DATE: January 4, 1984

Permit No. 426-3 for the City of Mitchell authorizes 15 cfs diversion from Lake Mitchell for the water works plant. The proposed new plant had a capacity of 4800 gpm (10.7 cfs). No new application will be required.

426-3

December 7, 1983

MEMO TO: Merlin Tipton, State Geologist  
Mark Stelchen, Administrator, Office of Drinking Water  
John Hatch, Director, Division of Water Rights  
Bill Markley, Section Chief, 208 Program

FROM: David Johnson, Natural Resource Engineer II  
Office of Water Quality

*David Johnson*

SUBJECT: Proposed Mitchell Water Treatment Plant  
CDBG 83-41

This Office hereby requests your comments on the referenced project as part of a review of possible water quality impacts. The site location and a brief description of the proposed project are attached.

If you have any questions, please contact this Office.

Thank you.

Attachments

BD0605DJ.wq



426-3

## MITCHELL WATER TREATMENT PLANT

### Project Description

1. Need for the Project: The Mitchell Water Treatment Plant and many of the major components within the plant are part of the original construction completed in 1929. Periodic updates and rehabilitation have occurred through out the life of the plant with the most recent rehabilitation completed in the early 1960's. With a facility of this nature, there comes a point in time when updating is no longer economically feasible. For this reason, the city entered into a contract with Schmucker, Paul, Nohr and Associates to do a comprehensive analysis of the city's entire water system. This report (on file with the Department of Water and Natural Resources) was completed in January, 1981 and subsequently revised with more accurate cost estimates in January, 1983. This study indicated the need for major improvements to the treatment plant and recommended major renovation or new construction. Acting in a responsible manner, the City Council decided to construct a new treatment facility. A bond issue was proposed to finance this new construction and brought to a vote in November of 1983. The issue was successful. The city is now proceeding to prepare final plans and specifications and begin construction of the facility.

2. Objectives of the Project: The object of the project is to construct a new Water Treatment Plant so the citizens of Mitchell can have an assured supply of safe potable water for their beneficial use. The construction of this project will enable the city to provide for the future growth needs of the city as well as provide a source of water for the proposed Davison County Rural Water System.

The construction of a new treatment facility will also enable the city to improve the quality of water provided to the residents. New construction will be designed so existing problems pertaining to water quality (especially trihalomethanes) will be eliminated as well as providing for healthy economic growth.

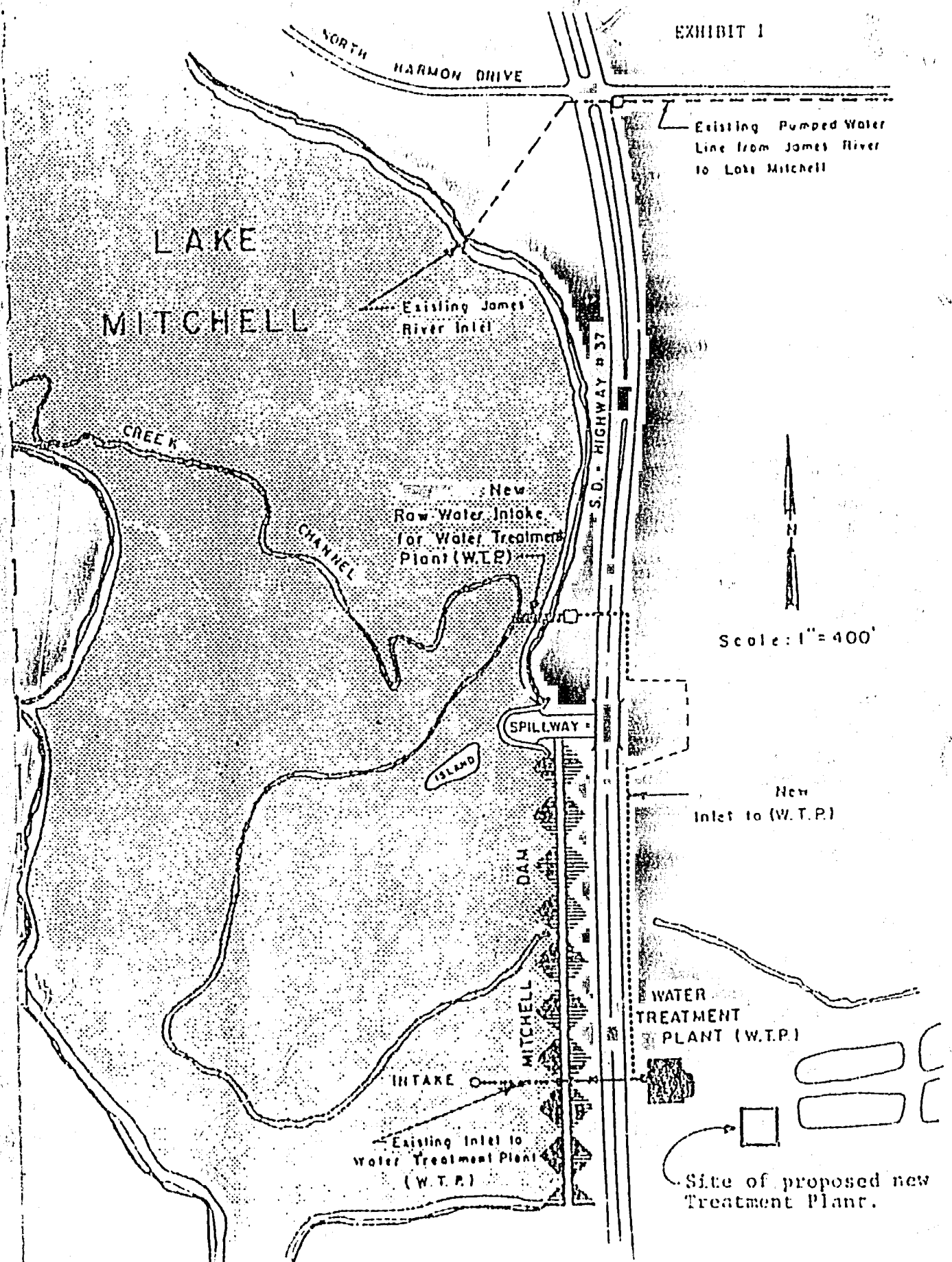
3. Method of Accomplishment: The objective of this project will be accomplished through the construction of a new treatment facility. The facility will be located on city owned property adjacent to the present facility. No negative environmental impacts are anticipated as a result of the construction of this project.

The facility will not be constructed in a wetlands area nor in the defined flood plain area. No known endangered species are known to frequent the area to be affected by construction. Any solid waste created during construction will be disposed of in the city's land fill. Domestic water quality should be substantially improve as

a result of the project. Surface water quality in the immediate vicinity of the plant should also improve as a result of this construction. The new plant will be designed to capture and re-use filter back-wash water that is currently being discharged into a land-locked draw. The project will not effect sole source aquifers as the water source is a man-made lake which was created in 1928 to provide a municipal supply for the city.

While limited noise and vibration pollution may occur during construction, but these are viewed as normal problems related to construction activities and are not considered serious problems. Once construction is completed, the plant will not create any problems associated with noise or air pollution. Lime sludge used in the treatment process will be disposed of properly. This will not create problems for the city as the existing treatment facility also create lime sludge that is currently being properly disposed of.

EXHIBIT 1



 **Department of  
Water & Natural Resources**

Joe Foss Building  
523 East Capitol  
Pierre, South Dakota 57501-3181

JUN 13 1989

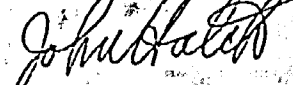
Leonard Williams, Mayor  
City of Mitchell  
PO Box 278  
Mitchell SD 57301

Dear Mayor Williams:

The Water Management Board has validated the enclosed Vested Water Right No. 426-3. This validation gives legal status to the claim and is the final document for your vested right.

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

Very truly yours,



JOHN HATCH, Chief Engineer  
Water Rights Division  
605 773-3352

enclosure



SOUTH DAKOTA

VALIDATION OF VESTED WATER RIGHT CLAIM NO. 426-3

Date Claim Accepted For Filing March 6, 1957.

Date of Validation May 10, 1989.

Pursuant to SDCL 46-2A-17 the Water Management Board validated Vested Water Right Claim No. 426-3 for the City of Mitchell, PO Box 278, Mitchell, South Dakota 57301 with the following limitations, conditions and qualifications:

1. Vested Water Right No. 426-3 appropriates 15.0 cubic feet of water per second from Firesteel Creek and impounds 10,560 acre feet of water in Lake Mitchell. The diversion point is located in the NE 1/4 SE 1/4 Section 9, T103N, R60W.
2. The appropriated water is used for supplying water for the City of Mitchell and may not exceed the amount of water needed for beneficial use for municipal purposes.  
  
The water is to be used during the following annual period:  
January 1 - December 31.
3. The priority date of the Vested Water Right is: January 1, 1927.
4. The water use system has been constructed and water has been applied to beneficial use.
5. Water Rights obtained in compliance with the laws of the State of South Dakota must not be unlawfully impaired by this appropriation.

WATER MANAGEMENT BOARD

By: John H. Heston  
Chief Engineer  
Division of Water Rights  
Dept. of Water and Natural Resources

JUN 13 1989

date

STATE OF SOUTH DAKOTA

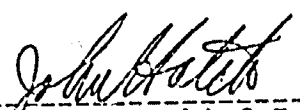
REISSUED VESTED RIGHT WATER LICENSE NO. 426-3

(1) The City of Mitchell of PO Box 278, Mitchell SD 57301 made Application No. 426-3, March 6, 1957 for a vested right claim to appropriate 15.0 cubic feet of water per second from Firesteel Creek, Davison County, South Dakota for municipal purposes. Vested Water Right No. 426-3 was validated May 10, 1989, with a priority date of January 1, 1927. Construction of the described water supply system and application to water to beneficial use has been completed and complies with applicable provisions of South Dakota State Law.

The original water license issued on January 6, 1961, did not specify the amount of water the City could impound in Lake Mitchell. With validation of Vested Water Right Claim, Vested Water Right License No. 426-3 is being reissued to include impoundment of 10,560 acre feet of water in Lake Mitchell.

(2) The applicant is entitled to divert 15.0 cubic feet of water per second and impound 10,560 acre feet of water in Lake Mitchell for beneficial use. The location of the diversion point is: a point 2110'N 2°15'W of the SE 1/4 corner Section 9, T103N, R60W (NE 1/4 SE 1/4).

(3) Pursuant to Section 46-5-30.1 the City of Mitchell of PO Box 278, Mitchell, South Dakota 57301 the holder(s) and/or owners(s) of Vested Water Right No. 426-3 is issued a license to appropriate 15.0 cubic feet of water per second from Firesteel Creek and impound 10,560 acre feet of water in Lake Mitchell with a priority date of January 1, 1927 from the location specified in (2) of this license. The water is to be used for the purpose of municipal use. This license is subject to any limitations or qualifications listed in Vested Water Right No. 426-3 and subject to South Dakota State Law.

  
-----  
JOHN HATCH, Chief Engineer  
Water Rights Division  
Department of Water and Natural  
Resources

JUN 13 1989



426-3  
DEPARTMENT of ENVIRONMENT  
and NATURAL RESOURCES

PMB 2020  
JOE FOSS BUILDING  
523 EAST CAPITOL  
PIERRE, SOUTH DAKOTA 57501-3182  
[www.state.sd.us/denr](http://www.state.sd.us/denr)

May 9, 2005

Tim McGannon, Public Works Director  
City of Mitchell  
612 N. Main Street  
Mitchell SD 57301-0278

Dear Mr. McGannon:

You contacted me inquiring about water right permitting issues for a proposed ethanol plant near Loomis. The developers are looking at Lake Mitchell as a possible water source. Your questions involved what water permitting may be necessary.

The city of Mitchell holds Water Rights No. 426-3 appropriating 15 cubic feet of water per second and authorizing storage of 10, 560 acre feet of water in Lake Mitchell. This water right has priority date of January 1, 1927 for municipal use.

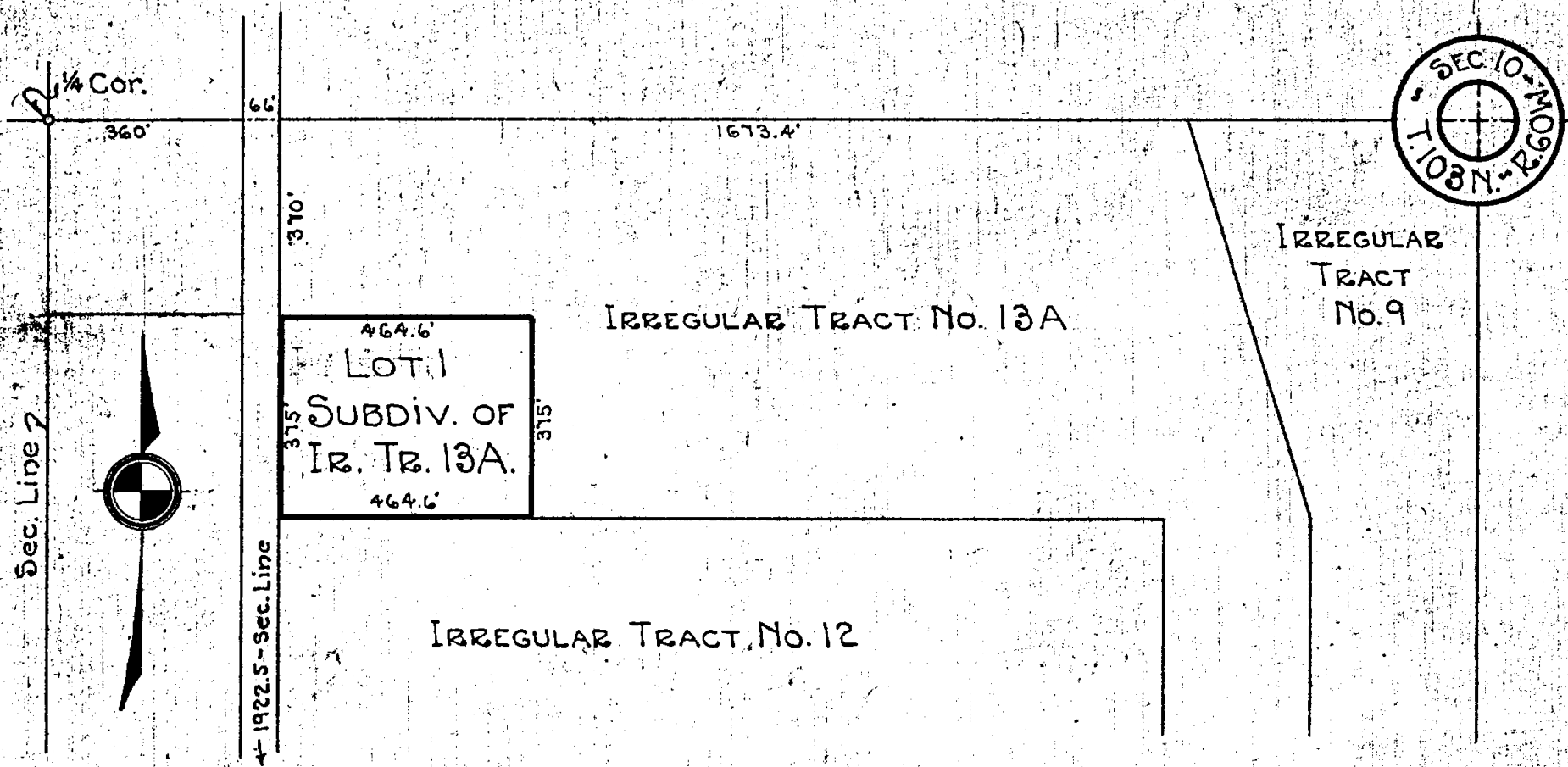
Our discussions lead in two directions. First, is whether the city can serve the plant under its existing Water Right No. 426-3. I believe that a municipal use water right provides broad authority to allow serving water industrial users. This assumes that the city utilizes its works for serving water to this customer. On the other hand, if the plant constructs its own diversion works, I believe they will need to apply for and obtain their own water right. In this instance, it is my opinion that the city will have to be agreeable to the proposed new diversion by virtue of the city's senior water right for diversion authority and storage in Lake Mitchell.

I hope this information is helpful. Please feel free to contact me anytime a question on water rights arises.

Sincerely,

Eric Gronlund  
Water Rights Program, DENR  
605 773-3352

PLAT OF  
LOT 1, SUBDIV. OF IRREGULAR TRACT No. 13A.  
S.W. 1/4 OF SEC. 10, T. 103 N., R. 60 W.



State of South Dakota } ss  
County of Davison }

I, J.C. Scallin, a Registered Professional Engineer and Land Surveyor in the State of South Dakota, do hereby certify that I did survey and stake out an irregular tract of land in the S.W. 1/4 of Section 10, T. 103 N., R. 60 W. described as follows: beginning at a point four hundred and twenty six (426) feet East and nineteen hundred and twenty two and five tenths (1922 5/10) feet North of the Section Corner to Sections 9, 10, 15 and 16, T. 103 N., R. 60 W.; thence three hundred and seventy five (375) feet North; thence four hundred and sixty four and six tenths (464 6/10) feet East; thence three hundred and seventy five (375) feet South; thence four hundred and sixty four and six tenths (464 6/10) feet West to point of beginning and comprising four (4) acres.

I further certify that I have shown on the above plat said irregular tract and its relative location together with the dimensions for same and the name by which it may hereafter be known i.e. Lot 1, Subdivision of Irregular Tract 13A-sec. 10, T. 103 N., R. 60 W.

In witness whereof I have hereunto set my hand and seal this 12th. day of August, 1929.

*J.C. Scallin*  
Registered Land Surveyor

State of South Dakota } ss  
County of Davison }

Be it well remembered that on this 12th. day of August, 1929, personally appeared before me J.C. Scallin, well known to me to be the person described in the foregoing certificate, and, who acknowledges that he executed the same of his own free will and accord on the day and year above written.

*William R. Earls*  
Notary Public

State of South Dakota } ss  
County of Davison }

I, W.L. Comstock, Treasurer of Davison County, do hereby certify that there are no unpaid taxes against the above described property this [redacted] day of [redacted] 1929.

[redacted]  
County Treasurer

Map No 325-3 (W/R 426-3)

EXHIBIT "C"

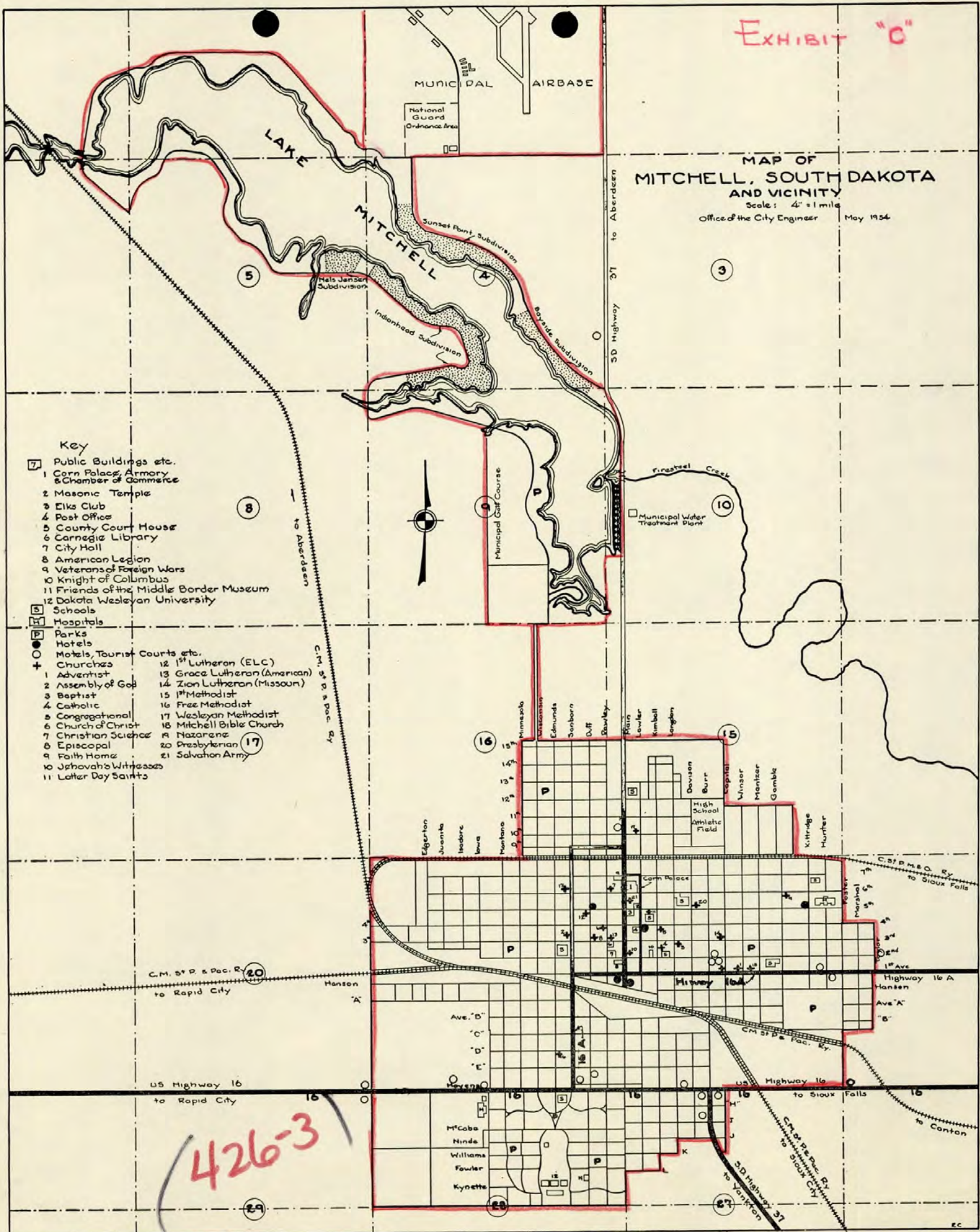
MAP OF  
MITCHELL, SOUTH DAKOTA  
AND VICINITY

Scale: 4" = 1 mile

Office of the City Engineer

May 1954

- Key
- 7 Public Buildings etc.
    - 1 Corn Palace, Armory & Chamber of Commerce
    - 2 Masonic Temple
    - 3 Elks Club
    - 4 Post Office
    - 5 County Court House
    - 6 Carnegie Library
    - 7 City Hall
    - 8 American Legion
    - 9 Veterans of Foreign Wars
    - 10 Knight of Columbus
    - 11 Friends of the Middle Border Museum
    - 12 Dakota Wesleyan University
  - 8 Schools
  - 9 Hospitals
  - 10 Parks
  - 11 Hotels
  - 12 Motels, Tourist Courts etc.
  - 13 Churches
    - 12 1st Lutheran (ELC)
    - 13 Grace Lutheran (American)
    - 14 Zion Lutheran (Missouri)
    - 15 1st Methodist
    - 16 Free Methodist
    - 17 Wesleyan Methodist
    - 18 Mitchell Bible Church
    - 19 Nazarene
    - 20 Presbyterian
    - 21 Salvation Army



Map # 325-3

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# City of Mitchell

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612 NORTH MAIN STREET • MITCHELL, SOUTH DAKOTA 57301 • (605) 995-8420 • FAX (605) 995-8410  
ENGINEER (605) 995-8435 • WATER PLANT (605) 995-8449 • STREET (605) 995-8465 • WASTE WATER (605) 995-8446  
WATER/UTILITIES (605) 995-8498 • PUBLIC WORKS/PLANNING/ZONING/INSPECTOR (605) 995-8433  
cityofmitchell.org

August 31, 2005

Garland Erbele, Chief Engineer  
Water Rights Program  
SD-DENR  
PMB 2020  
Joe Foss Building  
523 East Capitol  
Pierre, SD 57501-3182

RECEIVED

SEP 06 2005

WATER RIGHTS  
PROGRAM

Re: Amendment to Water Right 426-3; Additional Raw Water Intake for Ethanol Plant

Dear Mr. Erbele:

Please consider this a formal request to amend the City of Mitchell's Water Right 426-3 to allow an additional water intake for raw water from Lake Mitchell as depicted on the enclosed drawing.

Estimated water to be diverted is Raw Water to be treated at the Broin Ethanol Facility. The estimated maximum amount of water to be diverted is 600 gallons per minute or approximately 860,000 gallons per day.

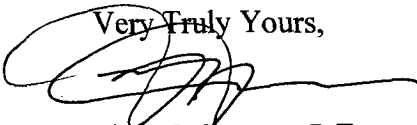
The City of Mitchell is currently under contract to B-Y RWS to take approximately 2,000,000 gallons per day. This is water previously taken from Lake Mitchell under permit 426-3.

Attached are slides presented to the Mitchell Public Works Committee on July 18, 2005. Mitchell's Public Works committee is composed of all 8 members of the City Council. Minutes of that meeting are also attached. Minutes of the City Council Meeting approving the Memorandum are also attached.

Also attached is a depiction of the new intake as it is in the planning stages.

Thank you for your consideration.

Very Truly Yours,



Tim McGannon, P.E.  
Director of Public Works

# **BROIN Companies'**

## **Memo of Understanding Request (Items)**

- **The City's willingness to supply a firm source of water to the proposed project;**
- **The City will provide untreated water to the plant from Lake Mitchell;**
- **The Project will contract to purchase water not to exceed 600 gallons/min. (864,000 gallons per day)**
  - **The City of Mitchell holds water right permit 426-3 for the use of 15.0 cubic feet per second of water from Firesteel Creek for domestic water supply. This amounts to a right to use nearly 10 million gallons per day)**
  - **The City of Mitchell holds future water right permit 427-3 for a future use of 5756 acre feet of water from Firesteel Creek for domestic water supply. This amounts to an additional 5 million gallons per day of water right.**
  - **The City of Mitchell holds water right permit 4354-3 for the use of waters of the James River to supplement waters from Firesteel Creek. We have the capacity to pump 15 million gallons per day from the James River.**

# BROIN Companies'

## Memo of Understanding Request (Items)

- The City will design and construct, and own a new 12 inch water line approximately 4 miles (to the Plant)
- Water and the water line must be available to the Project no later than August 2006.
  - Broin Companies have contracted with SPN and Associates to complete a design for the pump and pipeline system.
  - The City can offer an INTENTION of completing this project by August 2006. Many factors including the cost based upon the above estimate, right-of-way or easement cost and obtainability must be factored in.

# BROIN Companies'

## Memo of Understanding Request (Items)

- Capital costs of the new water line will be financed utilizing City Bonds;
- The Project will cover bond payments on the infrastructure capital costs;
- A preliminary cost estimate indicated a \$1.25 per thousand gallons to the Project;
  - Any bond which the City utilizes to pay for this project will affect the City's Bonded indebtedness ratio UNLESS a special election is held. This election, if approved, will allow this project to fall under a higher cap of indebtedness allowed utilities if special revenues are used. In this case, the revenue would be the sale of water to Broin. The taxpayers would not see higher water rates to pay for this system, only the revenue from Broin Water sales would pay this bond.
  - Factors affecting the rate for which the City sells water to Broin include:
    - Amount of water sold annually to Broin
    - Initial cost of the project
    - Length of the bond issue
    - Maintenance costs of the system.

# BROIN Companies'

## Memo of Understanding Request (Items)

- The Project will pay on-going operation, maintenance and replacement costs; and
  - My understanding of this is that Once Built, Broin will take control of the maintenance, electric needs and replacement of the pump/pipeline system. That these costs will not be included in the bond calculation or the water rate to Broin.
- The City provides water rights to the Project for life;
  - The City can not issue “water rights” The City owns the water rights to the waters as stated earlier in this discussion. For Broin to gain a water right, it would need to go before the State Water Rights Board. It would almost certainly obtain a “subservient” water right to all other rights on the creek. My recommendation is that the City treat Broin as any other industrial consumer. To the best of my knowledge, in the past 25 years, the City has not restricted water use to any industrial user on the City’s system. At the same time, we have gained new water capabilities, including James River and Missouri River water.

# Recommended Memorandum of Understanding between the City of Mitchell and Broin Companies

- Whereas: The Broin Companies with offices located at 2200 East 57<sup>th</sup> Street N. Sioux Falls, SD, and being represented by David Lambert and Larry Ward have expressed an interest in developing an ethanol production facility near the Loomis area in Davison County, and
- Whereas: The Broin Companies have expressed an interest in using water from Lake Mitchell, and
- Whereas: The City of Mitchell holds several superior water rights to the waters used to fill Lake Mitchell, and
- Whereas: The State of South Dakota, Department of DENR staff have indicated to the City of Mitchell that its water rights may be used for Domestic, including industrial uses as long as the water is taken from "Works" constructed by and for the City of Mitchell for such Domestic Water uses, and
- Whereas: "Works" include Lake Mitchell, Lake Mitchell Dam, and other facilities used to impound and transport Lake Mitchell Water, and
- Whereas: The City of Mitchell, South Dakota recognizes that an ethanol production facility located in Davison County may provide a large economic benefit to Davison County and the surrounding area, and
- Whereas: Broin Companies will invest a large amount of capital to construct and operate an ethanol production facility in Davison County
- Now, therefore, be it resolved that, to the best of its abilities, and in good faith:
  - The City of Mitchell, South Dakota will supply, from Lake Mitchell, up to 600 gallons per minute of untreated Lake Water to the Broin Ethanol Production Facility.
  - Broin Companies will contract to purchase, at a rate to be determined, up to 600 gallons per minute of untreated Lake Water from the City of Mitchell.
  - The City will construct a delivery system to take untreated Lake Mitchell water from Lake Mitchell and deliver same to the Ethanol Production Facility located near Loomis.
  - The City will fund said delivery system using the proceeds of such water sales to pay for the Delivery System costs.
  - Broin will pay the continued maintenance, operation and replacement costs of the Delivery System.
  - Water Sales rate shall be determined based upon final cost of the Delivery System, Interest rates, amortization not exceeding 10 years, and other such fees and costs yet to be determined and specific to the Water Delivery system.
  - Broin and the City shall both, in good faith and to the best of their abilities, attempt to have the Water Delivery System in place by August 1, 2006.

**MINUTES**  
**PUBLIC WORKS COMMITTEE**  
**JULY 18, 2005**  
**6:20-7:20 PM**

**PRESENT:** Terry Timmins, Britt Bruner, Ken Tracy, Allen Lepke, Jerry Toomey, Bev Robinson, Bill Rubendall, Doug Molumby, Mayor Alice Claggett, Marilyn Wilson, Tim McGannon, Mike Roth, David Lambert, Doug Feltman, KORN, KMIT, Daily Republic and other interested parties.

**CALL TO ORDER:** Meeting was called to order by Chairman Ken Tracy.

**1. APPROVE AGENDA:**

Chairman Tracy requested a motion to approve the Agenda. Motion by Bev Robinson to approve the Agenda as submitted. Seconded by Terry Timmins. All members voted Aye. Motion carried.

**2. APPROVE MINUTES OF JUNE 20, 2005 MEETING AND JULY 5, 2005 TOUR:**

Chairman Tracy requested a motion to approve the minutes as written. Motion by Allen Lepke to approve the Minutes of the June 20, 2005 Meeting and July 5, 2005 Tour as written. Seconded by Jerry Toomey. All members voted Aye. Motion carried.

**3. BROIN ENTERPRISES PRESENTATION:**

Tim McGannon introduced David Lambert and Mike Roth of Broin Enterprises. Lambert presented an overview of the company and its goals to the Committee (copy of the Power Point presentation attached as a part of these minutes). Lambert explained the goals of siting an ethanol plant in the Loomis area and discussed the need for water to run the process. Broin is proposing to purchase water from the City of Mitchell for their plant. Tim McGannon discussed the requests of Broin and proposed pipeline which would need to be built for this purpose (copy of McGannon's Power Point presentation attached as a part of these minutes).

McGannon explained the City could provide water per the "Memorandum of Understanding". McGannon said the City would own and construct the pipeline and Broin would then reimburse the City for the cost of the pipeline by paying an estimated \$1.25 to \$1.50 for each 1,000 gallon of water used. McGannon advised the rate could be adjusted based on how much water the plant actually uses, the final cost of the pipeline, interest rates, and amortization for a maximum of 10 years. McGannon also advised the local taxpayers and water customers aren't going to be paying for this improvement. Discussion followed on bonding, lease purchase and the City's bonding abilities for the project. Finance Officer Marilyn Wilson stated the revenue bonds would count against the City's bonding capacity unless an election is called and voters choose to remove it from the 5 percent maximum and place it under a 10 percent maximum for assessed valuation the State allows for water and irrigation type projects. She continued stating a lease-purchase agreement would not count against Mitchell's bonding capacity.

Discussion followed. Carl Koch questioned what effect the pipeline would have on Lake levels and the Lake quality. Koch felt the alum treatments which he felt have been improving the lake quality would be hindered if water from the James River pipeline was placed in the Lake if low lake levels occurred. Koch cited concerns of phosphate levels increasing from the poor quality of James River water.

**ACTION TAKEN:**

Motion by Bev Robinson to recommend to Council the "Memorandum of Understanding" as presented. Seconded by Bill Rubendall. All members voted Aye. Motion carried.

Minutes by Deb Hanson-Sudbeck

*Minutes of Mitchell City Council Approving the Memorandum  
of Understanding. July 18, 2005*

**Public Works Committee:**

The Public Works Committee met on July 18, 2005 at 6:20 p.m. in the Council Chambers of City Hall. The committee heard a presentation from Broin Enterprises regarding the proposed ethanol plant near Loomis. The ethanol plant would require water from the City of Mitchell. The committee approved the Memorandum of Understanding concerning the water use and pipeline for Broin Enterprises.

→ Moved by Robinson, seconded by Rubendall, to approve the Memorandum of Understanding for Broin Enterprises. Motion carried.

**Finance Committee:**

The Finance Committee met on July 18, 2005 at 7:20 p.m. in the Council Chambers of City Hall. The committee was updated by Lori Holmberg of the Mitchell Historic Preservation Commission on past and future projects of the commission.

Moved by Tracy, seconded by Lepke, to approve the committee reports. Motion carried.

**DEPARTMENT REPORTS:**

Moved by Lepke, seconded by Rubendall, to approve the following department reports: Police Department Report for May, Fire/EMS Report for June, Building Permits Issued in June, Water Department Report for June, Airport Board Minutes from May 10, 2005, Airport Report for June, Library Board Minutes from April 12, 2005 and June 14, 2005 and Park & Recreation Board Minutes from June 14, 2005 and July 12, 2005. Motion carried.

**RESOLUTIONS:**

Moved by Lepke, seconded by Timmins, to adopt Resolution #2333, Annexation of the Northerly 576.33 Feet of Block 5 of Westwood First Addition; as follows:

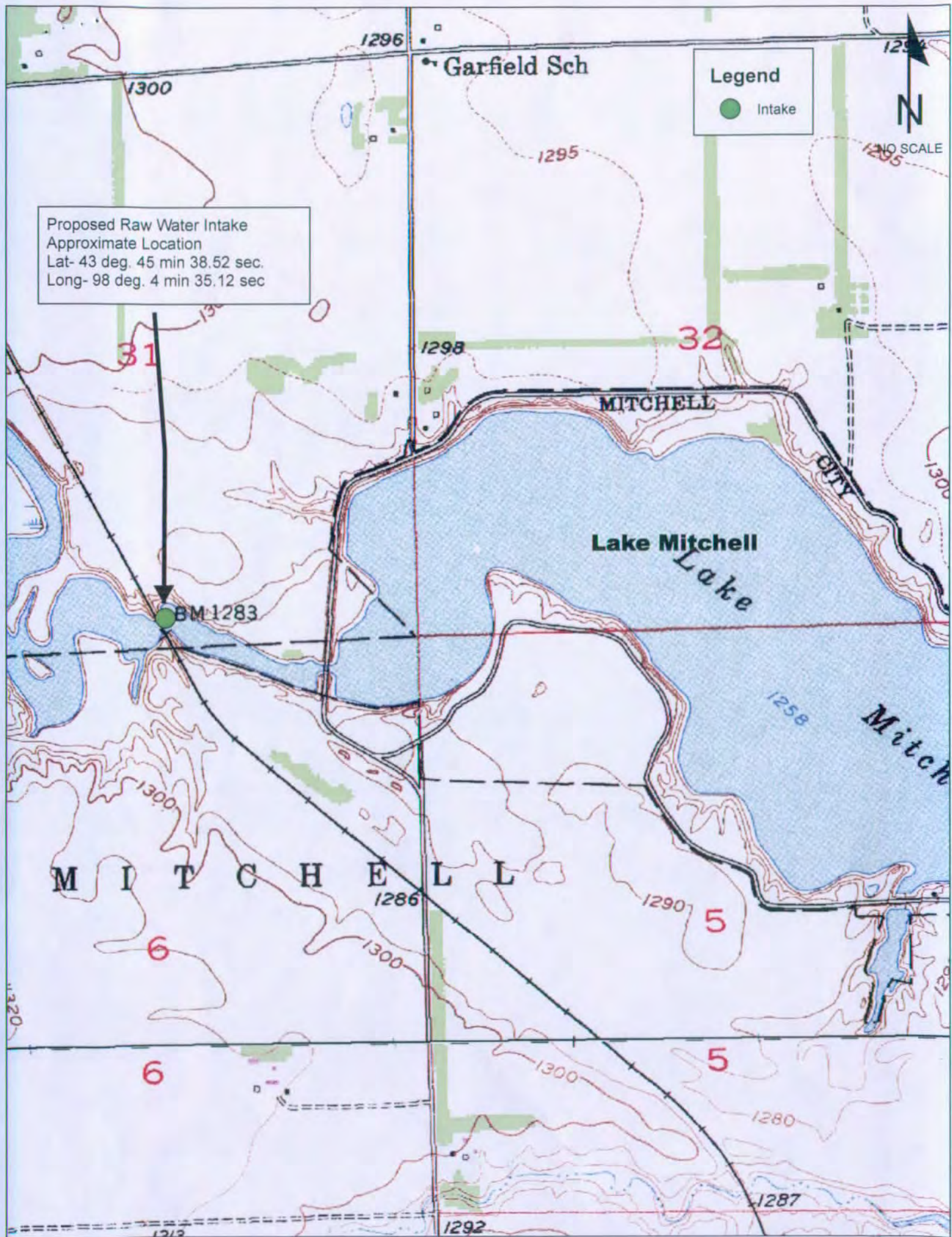
**RESOLUTION NO. 2333  
ANNEXATION OF REAL PROPERTY LEGALLY DESCRIBED BY:**

THE NORTHERLY 576.33 FEET OF BLOCK FIVE (5) OF WESTWOOD FIRST ADDITION, A SUBDIVISION OF THE NORTHWEST QUARTER (NW1/4) OF SECTION SIXTEEN (16), TOWNSHIP ONE HUNDRED THREE (103) NORTH, RANGE SIXTY (60), WEST OF THE 5<sup>TH</sup> P.M., DAVISON COUNTY, SOUTH DAKOTA, BEING 576.33 FEET ALONG THE EAST PROPERTY LINE OF SAID BLOCK FIVE (5) AND THE WEST RIGHT-OF-WAY LINE OF S.D. HIGHWAY NO. 37 BYPASS AND PARALLEL WITH THE NORTHERLY PROPERTY LINE OF SAID BLOCK FIVE (5) AS RECORDED IN PLAT BOOK 21 ON PAGE 9

Whereas: Charles J. Mauszycki, Sr. President of CJM Consulting, is the sole owner and petitioner of the above described real property,

Whereas: There are no registered voters residing within the property to be annexed, and







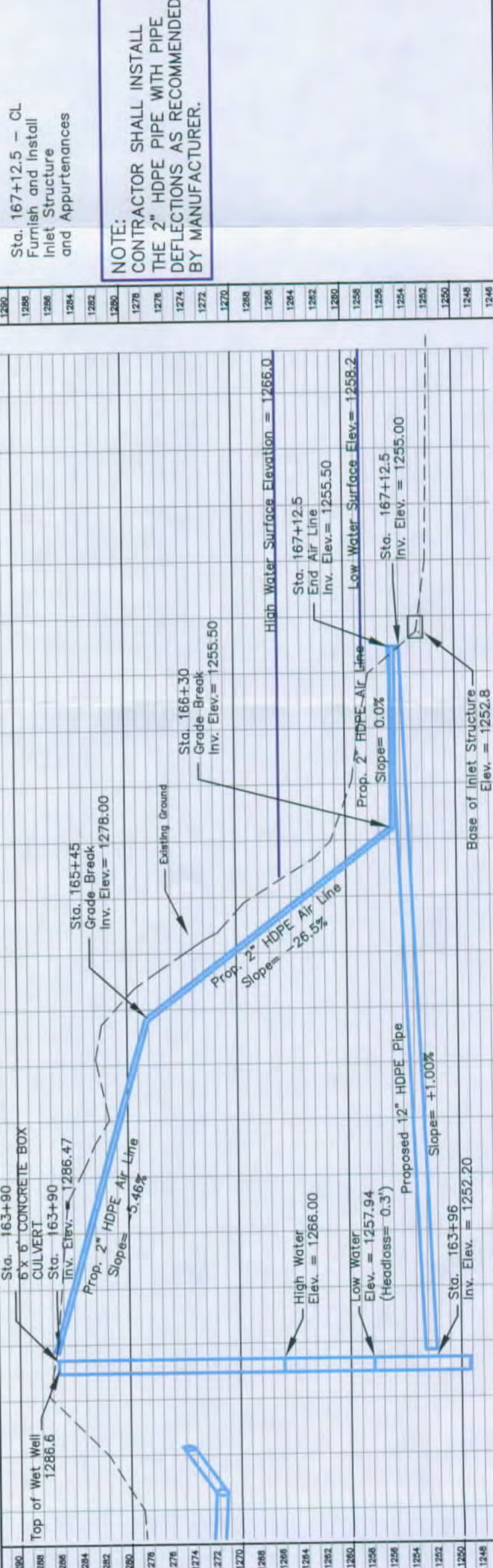
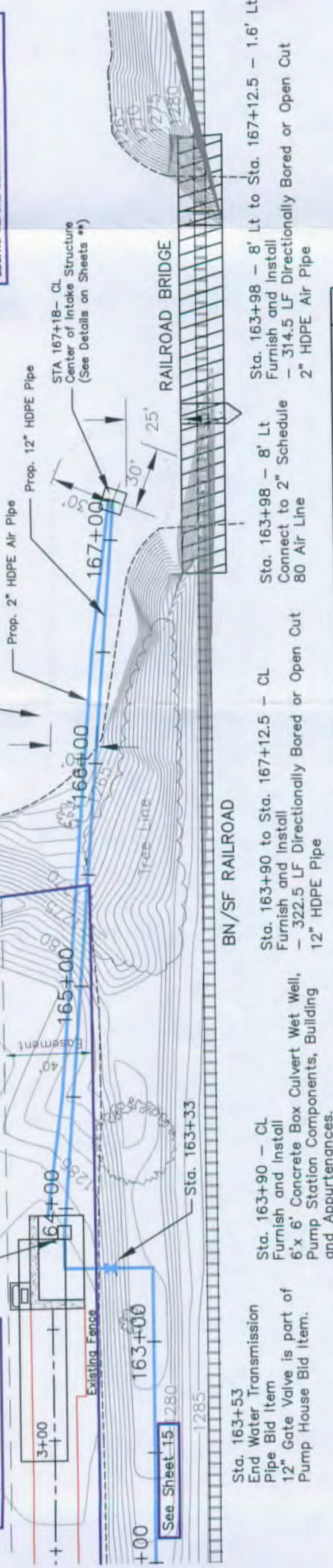
CONTRACTOR SHALL BE RESPONSIBLE TO VERIFY  
EXISTENCE AND LOCATION OF ALL UTILITIES  
PRIOR TO CONSTRUCTION.

UTILITIES WERE DRAWN USING SPOT LOCATIONS  
IN THE FIELD AND CONVERSATIONS FROM THE  
UTILITY COMPANIES. CALL UNDERGROUND  
LOCATE BEFORE BEGINNING WORK.

LOT 64

STA 163+90 -CL  
Center of Wet Well Structure  
(See Details on Sheet 18)

For Pump Station Details  
(See Sheets 19-22)



Sta. 167+12.5 - CL  
Furnish and Install  
Inlet Structure  
and Appurtenances

NOTE:  
CONTRACTOR SHALL INSTALL  
THE 2" HDPE PIPE WITH PIPE  
DEFLECTIONS AS RECOMMENDED  
BY MANUFACTURER.

Preliminary Design Phase  
For Review and Consideration  
Not for Construction

|                 |                               |
|-----------------|-------------------------------|
| Horiz. Scale:   | 1"=50'                        |
| Vertical Scale: | 1"=10'                        |
| Drawn By:       | TJH                           |
| Checked By:     |                               |
| Date:           | 8/2005                        |
| Project No.     | 12307                         |
| Computer Name:  | G:Land Proj R2                |
| File Name:      | 12307T1 Broin<br>Plan&Profile |

Project Name:  
City of Mitchell  
Raw Water  
Transmission

Located In:  
Mitchell,  
South Dakota

Sheet Name:  
Intake Pipeline  
Plan & Profile Sheet

|               |    |
|---------------|----|
| Sheet Number: | 16 |
| Total Sheets: | *  |

## **Approval of an Additional Diversion Point**

---

**NAME:** City of Mitchell, c/o Tim McGannon, Director of Public Works

**ADDRESS:** 612 North Main Street, Mitchell SD 57301

**DATE:** September 14, 2005      **COUNTY:** Davison      **TELEPHONE:** 995-8420

### **BACKGROUND:**

The city of Mitchell holds Vested Water Right No. 426-3 appropriating 15.0 cubic feet of water per second from Firesteel Creek and impound 10,560 acre feet of water in Lake Mitchell with a priority date of January 1, 1927 for municipal use. The authorized intake from Lake Mitchell is located in the NE ¼ SE ¼ Section 9, T103N, R60W. Water from Lake Mitchell has been historically used to meet the water supply needs of the city. The city also holds Water Right No. 4354-3 appropriating up to 29.0 cfs from the James River under certain conditions to provide supplemental water, if needed, to Lake Mitchell.

The city currently has a contract to receive 2 million gallons of water per day (3.1 cfs continuous) from B-Y Rural Water System. This is water that was previously diverted from Lake Mitchell as authorized by Right No. 426-3.

The city is proposing to supply untreated water from Lake Mitchell to an ethanol plant which is to be constructed near the town of Loomis. The plant will be approximately 4 miles northwest from the northwest corner of the lake. The city is planning to construct a new intake in the SW ¼ SE ¼ Section 31, T104N, R60W. The additional intake location is needed because the ethanol plant wants untreated water. Also locating the additional intake in the northwest corner of the lake substantially reduces the pipeline necessary to convey water to the plant.

The city will construct and own the 12 inch water line to the ethanol plant. Therefore, the city intends to serve water to the ethanol plant under their municipal use water right. The city will supply the ethanol plant a maximum amount of 600 gpm which equates to 864,000 gallons per day.

### **AUTHORITY:**

Pursuant to SDCL 46-5-13.1, the location of a diversion point may be changed or additional diversion points may be licensed provided the following conditions are met and the potential for interference with other existing diversions is not increased:

- **Developed water source same as permitted source and no additional water appropriated**

The water source remains Lake Mitchell which is located on Firesteel Creek.

No additional appropriation of water is being requested. Water Right No. 426-3 appropriates 15.0 cfs. The maximum diversion rate will not change as a result of the additional intake. The city's reliance on Lake Mitchell as their potable water source has decreased dramatically has a result of being served 2 mgd from B-Y RWS. However they do maintain the Lake Mitchell intake as a supplemental water source.

- **Review of Existing Diversions**

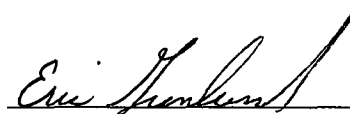
A review was conducted of existing water rights. There are four irrigation water rights on Firesteel Creek downstream of Lake Mitchell. These water rights will not be adversely impaired by this additional diversion point. The city is receiving it's water supply from B-Y RWS so the water now diverted for the ethanol plant will not result in any increase in amount of water historically diverted from Lake Mitchell.

### **CONCLUSION**

- This additional intake structure does not appropriate additional water.
- The water source remains Lake Mitchell on Firesteel Creek.
- Existing rights will not be adversely impacted by authorizing this additional well.

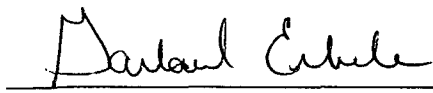
### **RECOMMENDED ACTION**

Based on the above criteria, it is recommended that the additional diversion point be authorized by Water Right No. 426-3.

  
Eric Gronlund  
Water Rights Program

The Chief Engineer makes a finding pursuant SDCL 46-5-13.1 and ARSD 74:02:01:14.01 that:

This additional diversion point does not increase the potential for adverse effects to existing diversions.

  
Garland Erbele, Chief Engineer  
Water Rights Program



426-3  
**DEPARTMENT of ENVIRONMENT  
and NATURAL RESOURCES**

PMB 2020  
JOE FOSS BUILDING  
523 EAST CAPITOL  
PIERRE, SOUTH DAKOTA 57501-3182  
[www.state.sd.us/denr](http://www.state.sd.us/denr)

September 16, 2005

Tim McGannon, P.E.  
Director of Public Works  
City of Mitchell  
612 North Main Street  
Mitchell SD 57301

Dear Mr. McGannon:

I am writing in regard to the city of Mitchell's request for an additional water intake from Lake Mitchell to be authorized under Vested Water Right No. 426-3. Vested Water Right No. 426-3 appropriate 15.0 cubic feet of water per second from Firesteel Creek and impounds 10,560 acre feet of water in Lake Mitchell with a priority date of January 1, 1927 for municipal use. The authorized intake from Lake Mitchell is located in the NE ¼ SE ¼ Section 9, T103N, R60W.

Mitchell is requesting authorization for an additional water intake in order to facilitate serving water under the city's water right to a ethanol plant near Loomis. The additional water intake will be located in the SW ¼ SE ¼ Section 31, T104N, R60W. No additional water will be appropriated. Combined diversions from the two intakes may not exceed 15.0 cfs.

Upon review of the request and pursuant to SDCL 46-5-13.1, the additional water intake is authorized without application or publication of a notice of hearing pursuant to SDCL 46-2A-4.

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

Sincerely,

Garland Erbele, Chief Engineer  
Water Rights Program

City of Mitchell  
612 North Main Street, Mitchell, SD 57301  
Phone: 605-995-8143  
CityOfMitchellsd.gov

RECEIVED

FEB 27 2026

OFFICE OF  
WATER



February 27, 2026

**South Dakota Department of Agriculture and Natural Resources**

Attn: Chief Engineer, Adam Mathiowetz  
523 East Capitol Avenue  
Pierre, South Dakota 57501

**Re: Petition for Variance from Minimum Spillway Design Requirements  
Lake Mitchell Dam (NID ID: SD00685)**

Dear Chief Engineer Adam Mathiowetz,

On behalf of the City of Mitchell, owner of Lake Mitchell Dam, this letter formally petitions the South Dakota Board of Water and Natural Resources for a variance from the minimum spillway design requirements pursuant to SDCL 46-7-5.3.

In response to DANR correspondence dated September 19, 2025, the City commissioned Houston Engineering to complete a comprehensive engineering evaluation of Lake Mitchell Dam performance. The findings of this work are documented in the attached report, *Lake Mitchell Inflow Design Flood Update Study*, which includes updated hydrologic and hydraulic analyses, spillway capacity evaluation, dam breach modeling, and an Incremental Consequence Analysis prepared in accordance with FEMA guidance and current engineering standards. An Emergency Preparedness Plan is presently being updated based on the information provided in this report. The attached report demonstrates that the existing spillway cannot safely pass the 50 percent Probable Maximum Flood (PMF) without overtopping the dam. However, the analyses also show that the dam can safely pass flood events up to approximately a 23 percent PMF without overtopping. Importantly, the Incremental Consequence Analysis concludes that, for the 23 percent PMF, failure of the dam due to inadequate spillway capacity would not increase the potential for risk to life from flooding to downstream residents or property when compared to the same flood without dam failure.

Consistent with the criteria set forth in SDCL 46-7-5.3, the City respectfully requests that the Chief Engineer investigate the attached analyses and recommend approval of a variance allowing the 23 percent PMF to serve as the Inflow Design Flood for Lake Mitchell Dam. The City understands that this petition is subject to notice and hearing procedures pursuant to Chapter 46-2A and stands ready to participate fully in that process.

Sincerely,

A handwritten signature in blue ink, appearing to read "Jordan Hanson", written over a horizontal line.

Mayor Jordan Hanson

A handwritten signature in blue ink, appearing to read "Adam Mathiowetz", written over a horizontal line.

*Outside expectations*

City of Mitchell - Office of the Mayor  
812 North Main Street - Mitchell, SD 57301  
Phone: 605-995-8420  
[CityOfMitchell.org](http://CityOfMitchell.org)



February 27, 2026

**South Dakota Department of Agriculture and Natural Resources**

Attn: Chief Engineer, Adam Mathiowetz  
523 East Capitol Avenue  
Pierre, South Dakota 57501

**RECEIVED**

**MAR - 2 2026**

**OFFICE OF  
WATER**

**Re: Petition for Variance from Minimum Spillway Design Requirements  
Lake Mitchell Dam (NID ID: SD00685)**

Dear Chief Engineer Adam Mathiowetz,

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The attached report demonstrates that the existing spillway cannot safely pass the 50 percent Probable Maximum Flood (PMF) without overtopping the dam. However, the analyses also show that the dam can safely pass flood events up to approximately a 23 percent PMF without overtopping. Importantly, the Incremental Consequence Analysis concludes that, for the 23 percent PMF, failure of the dam due to inadequate spillway capacity would not increase the potential for risk to life from flooding to downstream residents or property when compared to the same flood without dam failure.

Consistent with the criteria set forth in SDCL 46-7-5.3, the City respectfully requests that the Chief Engineer investigate the attached analyses and recommend approval of a variance allowing the 23 percent PMF to serve as the Inflow Design Flood for Lake Mitchell Dam. The City understands that this petition is subject to notice and hearing procedures pursuant to Chapter 46-2A and stands ready to participate fully in that process.

Sincerely,

Mayor Jordan Hanson

---

*Outside expectations*

Under the existing conditions and assuming a no dam failure and dam failure scenario, the 50% PMF places 18 inhabitable structures within "Danger Zones" according to ACER Technical Memorandum No. 11, Downstream Hazard Classification Guidelines (1988) published by the USBR. Structure locations can be viewed from figures in Appendix A. Figure 21 summarizes the structure IDs and their respective Parcel IDs. Parcel IDs and property addresses were obtained from the Davison and Hanson County Web Viewer applications. Figure 22 and Figure 23 detail the structures and their Danger Zones for a no dam failure and dam failure scenario respectively. For the no dam failure scenario, structures 6, 8, 10, and 13 are in the High Danger Zone solely based on the anticipated depths and velocities resulting from flooding. Structures 3, 7, and 18 are in the Judgement Zone solely based on the anticipated depths and velocities resulting from flooding. USBR defines the Judgement Zone as "Danger level is based upon engineering judgement." For any structure numbers not shown in the USBR Danger Zone plots, this corresponds to being in the High Danger Zone outside the limits of the USBR plots ( $V > 25$  ft/s and/or  $D > 10$  ft).

| Structure ID | Parcel ID             | Property Address     | Danger Zone for 23% PMF Dam Breach | Danger Zone for 50% PMF Dam Breach |
|--------------|-----------------------|----------------------|------------------------------------|------------------------------------|
| 1            | 06145-00100-003-00    | 1805 SCENIC COURT DR |                                    | L                                  |
| 2            | 06145-00100-002-00    | 1801 SCENIC COURT DR |                                    | J                                  |
| 3            | 06145-00100-001-00    | 1725 SCENIC COURT DR | J                                  | H                                  |
| 4            | 06141-10360-001-22    | 1902 N FOSTER ST     | H                                  | H                                  |
| 5            | 06141-10360-001-20    | 1700 N FOSTER ST     | H                                  | H                                  |
| 6            | 06141-10360-001-10    | 1620 N FOSTER ST     | J                                  | H                                  |
| 7            | 06141-10360-008-00    | 1509 WESTVIEW DR     |                                    | J                                  |
| 8            | 06144-10360-002-00    | 1021 N GALE RD       | L                                  | H                                  |
| 9            | 06000-10360-134-30    | 25279 BARBER PL      |                                    | L                                  |
| 10           | 103-59-018-002-000-03 | 25222 CAMPGROUND RD  | L                                  | H                                  |
| 11           | 08000-10460-103-20    | 40932 246TH ST       |                                    | L                                  |
| 12           | 06247-10360-001-10    | 2761 E 1ST AVE       |                                    | J                                  |
| 13           | 06000-10360-244-30    | 2840 E 1ST AVE       | J                                  | H                                  |
| 14           | 102-59-005-002-000-01 | 41327 JAMES RIVER RD |                                    | L                                  |
| 15           | 102-59-009-004-000-01 | 41462 258 ST         |                                    | L                                  |
| 16           | 102-59-009-004-000-01 | 41462 258 ST         |                                    | L                                  |
| 17           | 102-59-014-004-000-03 | 25823 417 AVE        |                                    | J                                  |
| 18           | 102-59-014-004-000-03 | 25823 417 AVE        | L                                  | J                                  |
| L            | Low Danger Zone       |                      |                                    |                                    |
| J            | Judgement Danger Zone |                      |                                    |                                    |
| H            | High Danger Zone      |                      |                                    |                                    |

Figure 21 – Structure IDs and Parcel IDs

**Report to the Chief Engineer on  
Request for a Variance to Spillway Capacity Requirements by  
City of Mitchell for Lake Mitchell Dam**

On March 1<sup>st</sup>, 2026, the Water Right Program received a petition to the Water Management Board by the City of Mitchell for a variance from the minimum spillway design requirements for Lake Mitchell Dam pursuant to South Dakota Codified Law (SDCL) 46-7-5.3. The City is seeking to retain the current spillway capacity for the dam. Lake Mitchell Dam is an intermediate sized, category 1 (high hazard) dam which is a dam whose failure may cause loss of life. Lake Mitchell Dam is located on land owned by the City of Mitchell; holder of Vested Water Right No. 426-3 for the reservoir. It has a dam height of 55 feet with an estimated normal storage capacity of 8,960 acre-feet, and an estimated maximum storage capacity of 19,585 acre-feet. This dam was originally constructed in 1928.

High hazard is the standard national terminology for a dam with a hazard potential classification of category 1 under the State's rules so, for the remainder of this report, the term high hazard will be used instead of category 1.

**South Dakota Codified Law (SDCL) and Administrative Rule of South Dakota (ARSD)**

ARSD 74:02:08:01(3) defines category 1 dam as, "a high hazard dam whose failure may cause loss of life".

Pursuant to ARSD 74:02:08:07, the minimum design flood that an intermediate sized, category 1 dam must have sufficient storage to contain, or spillway capacity to pass through, or over the dam without failure of the dam, is the 0.5 probable maximum flood (PMF) unless a dam is granted a variance pursuant to SDCL 46-7-5.3. An equivalent term for 0.5 PMF is 50% PMF and the terms can be used interchangeably.

SDCL 46-7-5.3 reads as follows:

SDCL 46-7-5.3. Investigation of dam--Variance relating to minimum spillway design requirements--Hearing. Upon petition to the Board by the owner of a dam, the Chief Engineer may investigate and conduct the necessary analysis to determine the potential damage to downstream residents or property if a dam were to fail due to inadequate spillway capacity. After the investigation and analysis, the Chief Engineer may recommend that a variance to Board rules relating to minimum spillway design requirements for dams be granted or denied. The recommendation, notice, and hearing before the Board shall be conducted pursuant to the procedure contained in chapter 46-2A. Following the hearing, the board may grant a variance upon a finding that failure of the dam due to inadequate

## Lake Mitchell Dam Variance Request

spillway capacity will not increase the potential for damage from flooding to downstream residents or property.

ARSD 74:02:08:01(18) defines PMF as, “the flood that may be expected from the most severe combination of critical meteorologic and hydrologic conditions that are possible in the region”.

Pursuant to ARSD 74:02:08:09 reconstruction, alteration, or repair that requires plans and specifications, or breaching of an existing dam may not begin until plans and specifications have been approved by the Chief Engineer.

### **General Background**

A brief review of the Water Rights Program’s dam records resulted in five past examples of when the Water Management Board heard requests for variances pursuant to SDCL 46-7-5.3. A summary of these requests is provided in Appendix A. Of the five examples, four variances were issued, and one variance request was denied. Two of those variance requests (Redfield and Fourth Street Dams) relied upon the report and analyses prepared by a consulting engineer hired by the dam owner.

These requests occurred primarily in the late 1980’s and early 1990’s. A review of the variances issued shows little to no consideration of hazard creep occurring, as part of the variance consideration. Hazard creep is the gradual increase in potential consequences of a dam failure—typically due to new development (homes, businesses, campgrounds, etc.) downstream of the dam without any physical change to the dam itself. Hazard creep is an area where dam safety practice and understanding has advanced since South Dakota’s laws and rules around dam safety were put into place. Additionally, since these historic requests, significant advancements have occurred in the standard of practice for dam safety, hydrologic modeling, and hydraulic modeling, alongside significant advancements in the quality and quantity of best available information. Combined, all these factors result in modern analysis practices yielding a more accurate representation of watershed behavior and spillway performance during different sized flood events, than what was possible at the time of past variances.

The investigative process generally described in SDCL 46-7-5.3 has also been more formally named and established within the dam safety industry. It can be referred to as either an Incremental Consequence Analysis or an Incremental Damage Analysis, so the use of either of those terms in this report or the supporting material refers to an analysis generally consistent with SDCL 46-7-5.3 and past variance requests. This type of analysis is commonly used in the dam safety industry to evaluate the risk of allowing a dam design with less flood capacity than required by a dam regulatory agency.

### **Background for this Request**

As part of the Lake Mitchell Restoration Project, currently under design, modifications to Lake Mitchell Dam will require review and approval of plans and specifications by the Chief

## Lake Mitchell Dam Variance Request

Engineer prior to the commencement of any construction activities. Two separate approvals will be necessary. First, the plans and specifications for the planned breach of the dam through the spillway must be approved before the breach work may begin. From the information provided to the Water Rights Program, a section of the spillway will be removed as a controlled breach to keep the reservoir mostly drained and allow for sediment removal. Second, following completion of the in-reservoir work, a separate submittal will be required for approval of the plans and specifications for reconstruction of the breached spillway section and installation of the proposed low-level outlet. The consulting engineer has indicated these items should be processed as independent reviews, as information obtained during the spillway breach may directly inform and refine the final reconstruction design.

During a project meeting in August 2025, Water Rights Program staff identified several issues related to the reconstruction phase that may delay or prevent issuance of the required Safety of Dams approval. First, an Emergency Preparedness Plan (EPP) is required for a high hazard dam as part of the Safety of Dams submittal. The EPP currently on file with the Water Rights Program, last updated on June 11, 1987, will require revision prior to consideration of reconstruction approval. Staff also noted that the inundation mapping contained in the existing EPP does not reflect current standards of practice and recommended that updated inundation mapping be prepared. Second, the extent of the proposed modifications to the spillway would, under prevailing best practices for high-hazard dams, necessitate a review of the dam's loading calculations, with updates performed as warranted. Water Rights staff also expressed concern that the design loading proposed for the new low-level control tower—planned for construction adjacent to the spillway within the reservoir—appeared to be lower than the loading required for the dam itself.

In response to these concerns, the City of Mitchell retained Houston Engineering Inc. (hereafter referred to as Houston) to provide technical assistance. Houston's (2026) analysis resulted in the report submitted with the City's variance request, titled Lake Mitchell Inflow Design Floods Update Study. This report serves as supporting technical documentation for the City's variance request.

### **Past 0.5 PMF Studies of Lake Mitchell Dam and the Updated 0.5 PMF Estimate**

There have been two past studies of the 0.5 PMF (also commonly called the 50% PMF) for Lake Mitchell. Lake Mitchell has a concrete horseshoe weir structure serving as the dam's only spillway structure to pass water through the dam. An overview of the dam is provided in Figure 1.

## Lake Mitchell Dam Variance Request

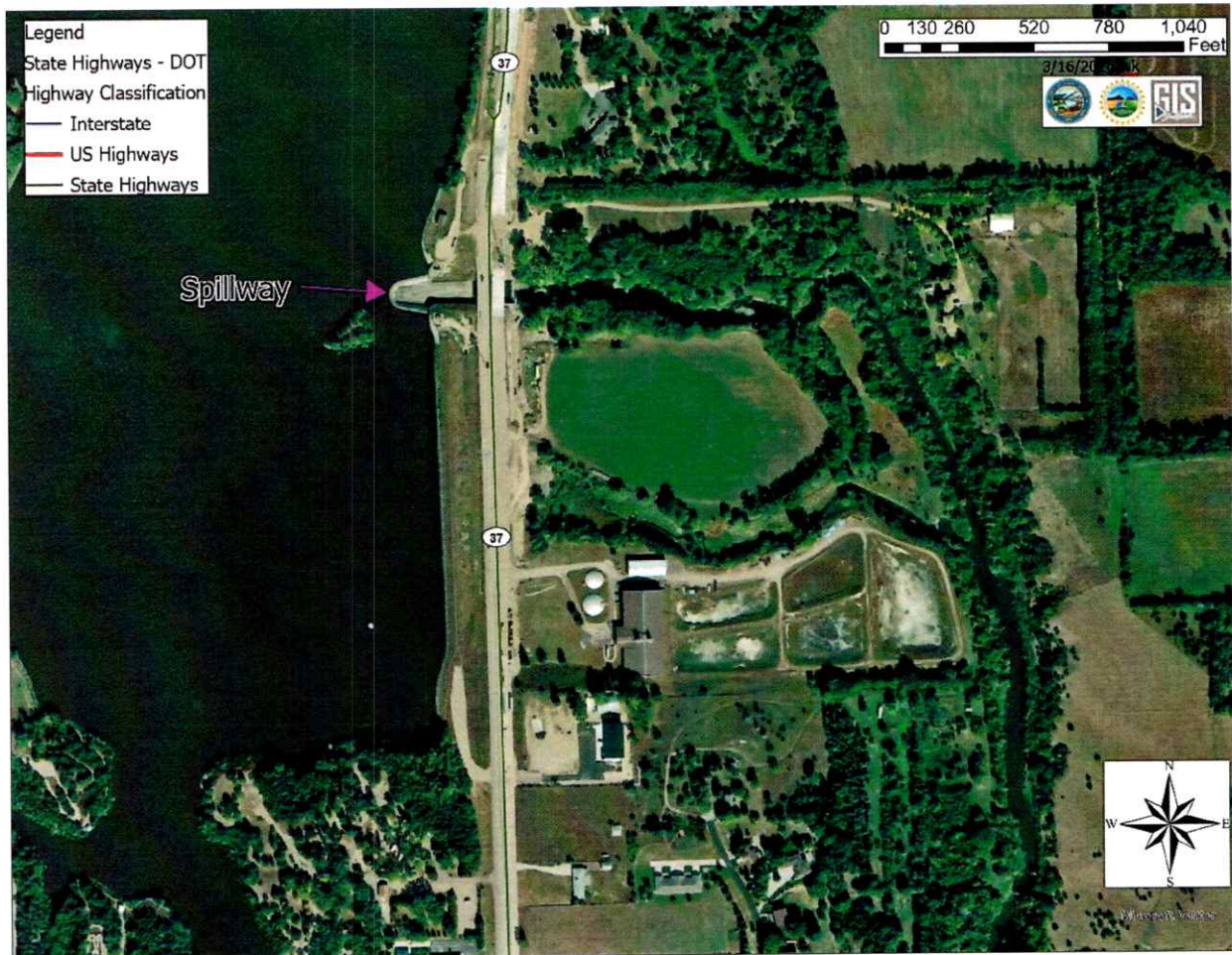


Figure 1: Overview of Lake Mitchell Dam

Two past estimates of the 0.5 PMF event for Lake Mitchell exist. The first was in 1978 as part of the United States Army Corps of Engineers Phase I Inspection Program (USACE, 1978). The second study was completed by Banner Engineering (hereafter refer to as Banner) in 1995 as part of the design work leading up to a major spillway project in 1998 and 1999 (Water Rights, 2026). These studies are summarized in Table 1. A review of the Banner study indicated that since that study, significant updates have occurred in best available information for understanding the hydrology of the watershed for the dam (LiDAR, land use data, soils data, etc.) and significant improvements in modeling capabilities have occurred to inform that understanding. Therefore, dam safety best practice for high hazard dams requires updating the estimate of the 0.5 PMF. For example, the Banner study used Hydrologic Soil Group B for the watershed, but the NRCS SSURGO soils data (provided for GIS as gNATSGO data) indicates the watershed is primarily Hydrologic Soil Group C (NRCS, 2024). Group C soils have a lower infiltration rate than Group B soils, so Group C soils result in higher runoff (NRCS, 2024).

Houston (2026) updated the estimated 0.5 PMF and spillway capacity for Lake Mitchell Dam using the US Army Corps of Engineers HEC-HMS software (version 4.13) along with other

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data. HEC-HMS is standard software widely used in the dam safety industry for this type of analysis. The methodology and data used for those updates was reviewed and found to be in line with current standard practice for this type of analysis and utilized best available information for the analyses performed. Available stream gage data (approximately 70 years) for Firesteel Creek was utilized to calibrate the model and inform analysis decisions regarding expected watershed behavior during high runoff events.

Early in the study, Houston approached the Water Rights Program regarding the appropriate data source for determining the probable maximum precipitation (PMP). The State's Safety of Dams Rules largely date to 1987, with minor updates in 1989. These Rules reference two PMP data sources: the National Weather Service's Hydrometeorological Report (HMR) No. 51, *Probable Maximum Precipitation Estimates, United States East of the 105th Meridian* (1978), and HMR No. 55, *Probable Maximum Precipitation Estimates, United States Between the Continental Divide and the 103rd Meridian* (1984). In 1988, HMR 55 was superseded by HMR 55A, which has routinely been used in place of the older publication (Water Rights, 2026).

Over the past two decades, the dam safety industry has recognized that the HMR reports are outdated and in need of replacement. Many states have commissioned updated PMP studies, including Nebraska (2008), North Dakota (2021), and Wyoming (2014) (AWA, 2008, 2014, 2021). The Nebraska study boundaries extend north into South Dakota and include the Lake Mitchell watershed. Because the Nebraska PMP study incorporates roughly 30 additional years of extreme precipitation data and reflects improved understanding of precipitation science (AWA, 2008), then-Acting Chief Engineer Mayer approved Houston's use of the Nebraska data so the variance request could rely on the best reasonably available information. This approach is consistent with now-retired Chief Engineer Gronlund's previous allowance of the North Dakota PMP study as part of the Elm Lake Dam rehabilitation project.

Use of the Nebraska PMP values resulted in a slightly lower PMP estimate for the Lake Mitchell watershed (17.25 inches), which aligns with the findings of both the North Dakota and Nebraska PMP studies when compared with HMR 51 (21.9 inches for the watershed).

The updated analysis by Houston ultimately resulted in an updated estimate of the 0.5 PMF for Lake Mitchell Dam of 109,495 cubic feet per second (cfs). Water Right Staff has reviewed the analysis by Houston and concurs with this updated estimate of the 0.5 PMF. Houston also updated the estimated spillway capacity using Computation Fluid Dynamic (CFD) modeling. Widespread CFD modeling is relatively new as best practice for analyzing more complex spillways (ASDSO, 2025). Historically, the main option for complex spillways was to approximate performance (as was done in the Banner report) or invest in expensive and time-consuming physical modeling (Banner, 1995). Given that the Houston analysis updated the 0.5 PMF, it makes sense that CFD modeling would also be used to obtain a much more accurate picture of spillway hydraulic performance and update the spillway rating curve. The spillway rating curve is a graph of spillway discharge at different reservoir elevations. The updated spillway rating curve shows that the dam's current spillway capacity can only accommodate a 0.23 PMF event (50,368 cfs); therefore, the City is requesting a variance to maintain the current spillway capacity.

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| Table 1: Comparison of PMF Studies of Lake Mitchell (USACE, 1978; Banner, 1995; modified from Houston, 2026) |                                                          |                                                          |                                           |              |
|--------------------------------------------------------------------------------------------------------------|----------------------------------------------------------|----------------------------------------------------------|-------------------------------------------|--------------|
| Item                                                                                                         | Value                                                    |                                                          |                                           | Units        |
|                                                                                                              | USACE (1978)                                             | Banner (1995)                                            | Houston (2026)                            |              |
| Contributing Drainage Area                                                                                   | 496                                                      | 603                                                      | 652.76                                    | square miles |
| Precipitation Data Source and Modeling                                                                       | Unclear possibly a draft of HMR 51 or HMR 33             | HMR 51                                                   | Nebraska Statewide PMP, HMR 52, & HEC-HMS | n/a          |
| PMP Duration                                                                                                 | Unclear, likely either 24 or 48                          | 48                                                       | 48                                        | hours        |
| PMP Total                                                                                                    | 22                                                       | 21.9                                                     | 17.25                                     | inches       |
| Hydrograph Development and Modeling                                                                          | National Inspection of Dams, Hydrologic Analysis Program | National Inspection of Dams, Hydrologic Analysis Program | HEC-RAS 2D                                | n/a          |
| PMF Peak Reservoir Inflow                                                                                    | 77,300                                                   | 102,800                                                  | 218,990                                   | cfs          |
| 0.5 PMF Peak Reservoir Inflow                                                                                | 37,600                                                   | 50,100                                                   | 109,495                                   | cfs          |
| Approximate Water Depth at Dam                                                                               | 2.4 ft below dam crest                                   | 0.4 ft below dam crest                                   | Overtops dam by 5.5 ft                    | feet         |

### Discussion of Request

The discussion of this variance request will focus on review and discussion of the report by Houston. This discussion will also provide some limited background to assist with understanding the Houston report on topics where that background will assist with making a recommendation on this request. The Houston report is attached to the City's variance request.

Houston modeled multiple breach and non-breach scenarios using the US Army Corps of Engineers' HEC-RAS 2D (version 6.7) software and compiled information for the population at risk (PAR) in those scenarios. HEC-RAS 2D is a standard software widely used in the dam safety industry for this type of analysis. PAR is the population present in the area inundated by a dam failure. For defining a dam as high hazard, the State's rules and past practice focus on overnight accommodations (homes, hotels, campgrounds etc.) in the inundation area so, following that and discussion with Water Rights Program staff, the focus of the different modeled scenarios was the impact to habitable structures in the danger zone for a dam breach at the 0.5 PMF event. The locations of those 18 structures are provided in the first several pages of the Appendix in the Houston report. Note that structures 1 through 13 are between the dam and the confluence of Firesteel Creek and the James River. The remaining structures are along the James River, and due to the very flat nature of the James River structures 9, 10, and 11 are upstream of the confluence. Water Rights did ask Houston about the Interstate 90 crossing over the James River downstream of the Firesteel Creek-James River confluence, and it was indicated the bridge didn't overtop (Kelly, 2026).

The two major factors for looking at a flood risk to habitable structures are the depth of flood waters and the velocity of flood waters. USBR (1988) sets danger zones for different depth velocity combinations for houses built on foundations, this is provided in Figure 2. Table 3 provides the danger zone for each structure at the 0.23 PMF event both with and without a dam breach. Table 3 shows the danger zone for each structure if the dam was upgraded to be able to

## Lake Mitchell Dam Variance Request

pass the 0.5 PMF event both with and without dam failure. The cost to rehabilitate/modify the dam to pass the 0.5 PMF event without failure would likely be in the millions of dollars, based on the cost of other recent dam rehabilitation projects in SD (Water Rights, 2026). However, in the the Finding of Facts and Conclusions of Law for the denial of the Fourth Street dam variance request by the City of Pierre the Board concluded, “The existence of collateral benefits to residents of the City and the lower costs to residents of the City from the grant of the variance are not factors which may be considered in the grant of the variance.” (Water Rights, 2026)

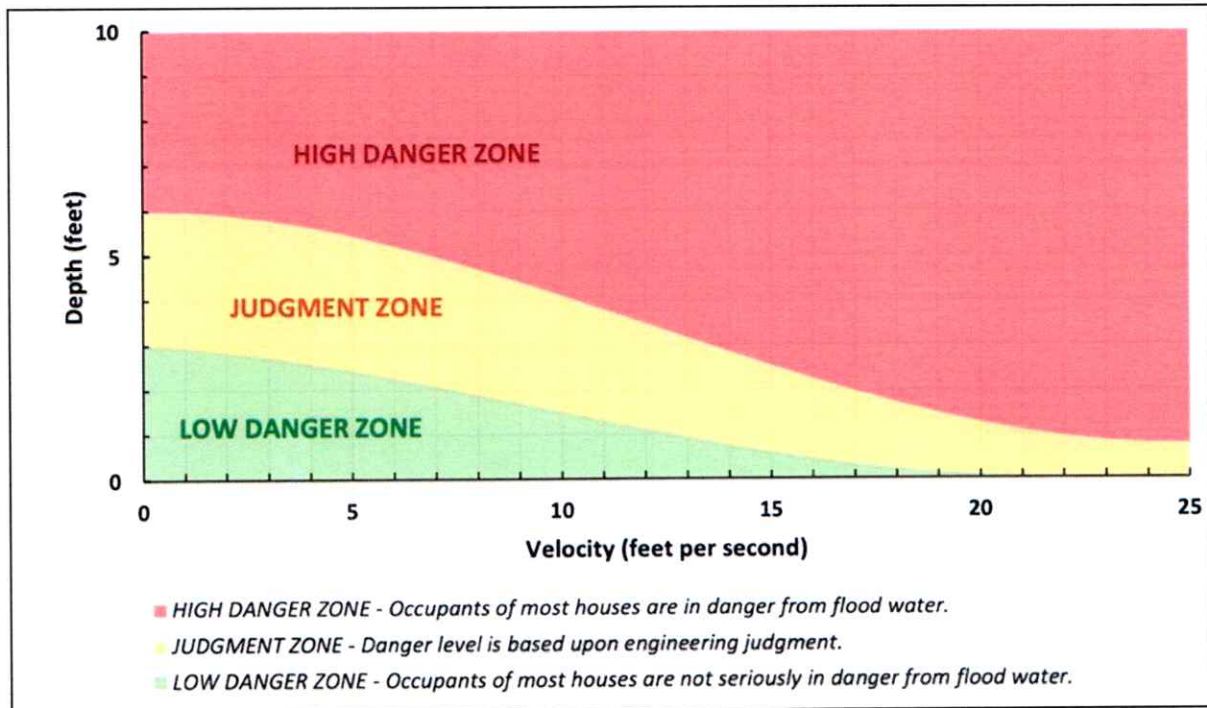


Figure 2: USBR (1988) depth-velocity-flood danger relationship for houses built on foundations

# Lake Mitchell Dam Variance Request

Table 2: Risk to habitable structures (ID Nos. 1 through 18) with and without dam failure at the 23% PMF - ▲ denotes increased risk (Houston, 2026)

| ID | 23% PMF        |             |                           |             |             |                           |
|----|----------------|-------------|---------------------------|-------------|-------------|---------------------------|
|    | No Dam Failure |             |                           | Dam Failure |             |                           |
|    | Depth, D       | Velocity, V | Hazards                   | Depth, D    | Velocity, V | Hazards                   |
|    |                |             | USBR<br>ACER TM<br>No. 11 |             |             | USBR<br>ACER TM<br>No. 11 |
|    | ft             | ft/s        |                           | ft          | ft/s        |                           |
| 1  | 0.0            | 0.0         |                           | 0.0         | 0.0         |                           |
| 2  | 0.0            | 0.0         |                           | 0.0         | 0.0         |                           |
| 3  | 0.0            | 4.4         | L                         | 2.3         | 6.3         | J                         |
| 4  | 4.3            | 2.7         | J                         | 6.7         | 3.8         | H                         |
| 5  | 4.6            | 2.8         | J                         | 7.0         | 3.9         | H                         |
| 6  | 3.0            | 2.1         | J                         | 5.4         | 2.7         | J                         |
| 7  | 0.0            | 0.0         |                           | 0.0         | 0.0         |                           |
| 8  | 0.0            | 1.3         | L                         | 1.8         | 1.6         | L                         |
| 9  | 0.0            | 0.0         |                           | 0.0         | 0.0         |                           |
| 10 | 1.5            | 0.8         | L                         | 2.4         | 0.8         | L                         |
| 11 | 0.0            | 0.0         |                           | 0.0         | 0.0         |                           |
| 12 | 0.0            | 0.0         |                           | 0.0         | 0.0         |                           |
| 13 | 2.4            | 4.7         | L                         | 3.9         | 5.3         | J                         |
| 14 | 0.0            | 0.0         |                           | 0.0         | 0.0         |                           |
| 15 | 0.0            | 0.0         |                           | 0.0         | 0.0         |                           |
| 16 | 0.0            | 0.0         |                           | 0.0         | 0.0         |                           |
| 17 | 0.0            | 0.0         |                           | 0.0         | 0.0         |                           |
| 18 | 0.0            | 0.0         | L                         | 0.8         | 0.5         | L                         |

# Lake Mitchell Dam Variance Request

Table 3: Danger zone for downstream structures (ID Nos. 1 through 18) if the dam was upgraded to pass the 0.5 PMF - ▲ denotes increased risk (Houston, 2026)

| ID | 50% PMF Modified Spillway |             |                           |             |             |                           |
|----|---------------------------|-------------|---------------------------|-------------|-------------|---------------------------|
|    | No Dam Failure            |             |                           | Dam Failure |             |                           |
|    | Depth, D                  | Velocity, V | Hazards                   | Depth, D    | Velocity, V | Hazards                   |
|    | ft                        | ft/s        | USBR<br>ACER TM<br>No. 11 | ft          | ft/s        | USBR<br>ACER TM<br>No. 11 |
| 1  | 0.0                       | 0.0         |                           | 0.0         | 0.0         |                           |
| 2  | 2.4                       | 3.3         | L                         | 4.1         | 3.7         | J ▲                       |
| 3  | 5.9                       | 6.4         | H                         | 7.5         | 6.8         | H                         |
| 4  | 12.7                      | 4.6         | H                         | 14.4        | 5.1         | H                         |
| 5  | 11.2                      | 4.4         | H                         | 12.8        | 4.7         | H                         |
| 6  | 12.3                      | 3.3         | H                         | 14.0        | 3.6         | H                         |
| 7  | 3.1                       | 2.7         | J                         | 4.8         | 3.1         | J                         |
| 8  | 7.8                       | 1.9         | H                         | 9.4         | 2.1         | H                         |
| 9  | 0.6                       | 0.9         | L                         | 1.1         | 0.8         | L                         |
| 10 | 7.1                       | 1.3         | H                         | 7.5         | 1.3         | H                         |
| 11 | 0.8                       | 0.5         | L                         | 1.3         | 0.6         | L                         |
| 12 | 1.9                       | 2.0         | L                         | 3.0         | 2.3         | J ▲                       |
| 13 | 10.0                      | 6.3         | H                         | 10.8        | 6.6         | H                         |
| 14 | 2.9                       | 0.5         | L                         | 3.3         | 0.5         | J ▲                       |
| 15 | 2.6                       | 0.7         | L                         | 3.0         | 0.7         | L                         |
| 16 | 0.4                       | 1.0         | L                         | 0.8         | 1.0         | L                         |
| 17 | 3.0                       | 1.3         | J                         | 3.4         | 1.4         | J                         |
| 18 | 4.8                       | 1.2         | J                         | 5.1         | 1.3         | J                         |

From Table 2 it can be seen that a dam failure at the 0.23 PMF (current spillway capacity) puts two downstream structures in this high danger zone. Houston (2026) did note that a 0.23 PMF event with no dam present would result in flooding between the 0.23 PMF with no dam failure and the 0.23 PMF with dam failure. From Table 3 it can be seen that if the dam were modified to pass the 0.5 PMF event even without dam failure seven structures would be in the high danger zone. This indicates that at the current level of development in the area downstream of the dam requiring an increase in spillway capacity to the 0.5 PMF as required by rules would increase the danger to downstream residences from flooding. The danger zones for the downstream structures at the 0.23 PMF with dam failure and 0.5 PMF event without dam failure are shown directly adjacent in Table 4. The charge in SDCL 46-7-5.3 is, “the Board may grant a variance upon a finding that failure of

## Lake Mitchell Dam Variance Request

the dam due to inadequate spillway capacity will not increase the potential for damage from flooding to downstream residents or property”. Given this information at the current level of downstream development, there is a case for a variance to allow the current spillway capacity to be maintained.

Table 4: Comparison of the danger zones for the dam being modified to pass the 50%PMF and the danger zones with a dam failure at the 23%PMF (Houston, 2026)

Modified 50% PMF

| ID | No Dam Failure |             |                           |
|----|----------------|-------------|---------------------------|
|    | Depth, D       | Velocity, V | Hazards                   |
|    | ft             | ft/s        | USBR<br>ACER TM<br>No. 11 |
| 1  | 0.0            | 0.0         |                           |
| 2  | 2.4            | 3.3         | L                         |
| 3  | 5.9            | 6.4         | H                         |
| 4  | 12.7           | 4.6         | H                         |
| 5  | 11.2           | 4.4         | H                         |
| 6  | 12.3           | 3.3         | H                         |
| 7  | 3.1            | 2.7         | J                         |
| 8  | 7.8            | 1.9         | H                         |
| 9  | 0.6            | 0.9         | L                         |
| 10 | 7.1            | 1.3         | H                         |
| 11 | 0.8            | 0.5         | L                         |
| 12 | 1.9            | 2.0         | L                         |
| 13 | 10.0           | 6.3         | H                         |
| 14 | 2.9            | 0.5         | L                         |
| 15 | 2.6            | 0.7         | L                         |
| 16 | 0.4            | 1.0         | L                         |
| 17 | 3.0            | 1.3         | J                         |
| 18 | 4.8            | 1.2         | J                         |

23%PMF Dam Failure

| Dam Failure |             |                           |
|-------------|-------------|---------------------------|
| Depth, D    | Velocity, V | Hazards                   |
| ft          | ft/s        | USBR<br>ACER TM<br>No. 11 |
| 0.0         | 0.0         |                           |
| 0.0         | 0.0         |                           |
| 2.3         | 6.3         | J                         |
| 6.7         | 3.8         | H                         |
| 7.0         | 3.9         | H                         |
| 5.4         | 2.7         | J                         |
| 0.0         | 0.0         |                           |
| 1.8         | 1.6         | L                         |
| 0.0         | 0.0         |                           |
| 2.4         | 0.8         | L                         |
| 0.0         | 0.0         |                           |
| 0.0         | 0.0         |                           |
| 3.9         | 5.3         | J                         |
| 0.0         | 0.0         |                           |
| 0.0         | 0.0         |                           |
| 0.0         | 0.0         |                           |
| 0.0         | 0.0         |                           |
| 0.8         | 0.5         | L                         |

FEMA (2013a) on selecting inflow design floods (IDFs) for dams contains discussion of using the incremental consequence analysis for selecting the design IDF for a dam. Within this approach, FEMA defines the IDF as, “The IDF selected using incremental consequence analysis is the flood above which there is a negligible increase in downstream water surface elevation, velocity, and/or consequences due to failure of the dam when compared to the same flood without dam failure.” FEMA (2013a) goes on to state that, “For a High Hazard Potential dam, the recommended lower limit for an IDF estimated using incremental consequence analysis is the 0.2% annual chance exceedance flood.” The 0.2% annual chance exceedance (ACE) flood is also known as the 500-year flood event, which is a flood event with a 1 in 500 chance (0.2%) of occurring or being exceeded in any given year. Houston calculated the peak inflow into the

## Lake Mitchell Dam Variance Request

reservoir at 0.2% ACE event to be 29,529 cfs, which is below the 0.23PMF peak inflow of 50,368 cfs (current spillway capacity).

### **Recommendation**

Pursuant to SDCL § 46-7-5.3, the Chief Engineer is recommending the Water Management Board grant the City of Mitchell's variance request for Lake Mitchell Dam. Based on review of information and analysis provided by Houston, submitted with the variance request, a variance from the spillway requirements of the Safety of Dams Rules could be granted since the risk to the public in the inundation area would not be meaningfully decreased by upgrading the dam to pass the 0.5 PMF without failure. However, to provide additional protection of public safety several qualifications for that approval are recommended and discussed below.

1. The EPP be updated and reviewed annually. The EPP is required to include details on how and when to warn the residences and business that are most at risk for loss of life from a dam failure.

This qualification is recommended because it is imperative that the EPP be periodically reviewed and updated to prevent loss of life, and to provide an accurate and up to date evacuation plan. Widely accepted standard of care for high hazard dams in the United States include having and maintaining an EPP that is periodically reviewed and kept updated (typically annually). State rules only require high hazard dams in South Dakota have an EPP. The existing EPP for the dam on file with the Water Rights Program was last updated June 11, 1987. It has been standard practice for the Water Rights Program to inspect the Lake Mitchell Dam every three years in accordance with ARSD 74:02:08:11 and provide the dam owner with a copy of the Program's inspection report. Program inspection reports from 2010, 2013, 2017, 2019, and 2022 have all recommended the EPP be reviewed and updated.

2. The dam owner is responsible for ensuring an EPP tabletop exercise be held at least every six years.

This qualification is recommended because familiarity with, and adequacy in executing an EPP, is critical to preventing loss of life. A tabletop exercise helps both staff and participants get familiar with, and maintain familiarity with, the EPP and the emergency response process in a risk-free environment. The most basic goal of a tabletop exercise is to ensure responders know exactly what to do in an emergency. It can also help identify weaknesses in an EPP that need to be reviewed and updated. Tabletop exercises are increasingly becoming a requirement by state regulatory agencies nationwide for high hazard dams. FEMA (2013b) recommends a tabletop exercise at least every three to four years for a high hazard dam. Currently, the Water Rights Program aims to inspect high hazard dams every

## Lake Mitchell Dam Variance Request

three years. Therefore, six years is recommended to align with a tabletop exercise with every other routine inspection. When possible qualifications were discussed with Houston and the City, the initial suggestion was an exercise at least every five years, but six is recommended to line up with the inspection cycle.

3. The variance is subject to periodic review by the Water Rights Program. Upon review, if it is determined that the risk associated with the variance has increased the potential for damage from flooding to downstream residents or property compared with the risk associated with compliance with the SD Safety of Dam Rules, the Chief Engineer may recommend revocation of the variance to the Board. Any such recommendation is subject to the procedure contained in Chapter 46-2A.

The case for this qualification is twofold. First, this qualification charges the Water Rights Program with routinely reviewing the area of inundation and assessing changes in risk from a dam failure due to changes in development, known as hazard creep. Since the last variance was recommended for approval, the understanding of how hazard creep affects risk associated with dams has advanced. Routine review of the downstream inundation area for new development helps identify any changes in risk due to hazard creep. The Water Rights Program does not currently have a requirement or procedure to routinely review state regulated dams for changes in the downstream population at risk (PAR). This includes having no requirement or procedure to currently routinely review dams with an approved variance to check if new development (hazard creep) has occurred downstream that increased the potential for damage from flooding to downstream residents or property due to failure of the dam from the approved lower spillway capacity.

The intent of the dam safety standards is public safety. So second, this qualification accomplishes this intent by encouraging the city to utilize its planning and zoning powers to limit future development in the inundation area that could increase the population at risk in the event of a dam failure. It also encourages the City to work with the County to do the same. The use of a buffer zone outside of the mapped inundation area is encouraged to account for any modeling uncertainties.

The variance is subject to periodic review. These reviews may be conducted as part of routine inspection of the dam by the Water Rights Program, during any spillway repair, rehabilitation, or replacement project, or any dam rehabilitation project, excluding the water quality project currently under design. Upon review, if it is determined that the risk associated with the variance has increased the potential for damage from flooding to downstream residents or property compared with the risk associated with compliance with the Safety of Dam Rules, the Chief Engineer may

## Lake Mitchell Dam Variance Request

recommend revocation of the variance to the Board. Any such recommendation would be subject to the procedure contained in Chapter 46-2A

The Water Rights Program considers dam EPPs to be for official use only, so not open to inspection or copying pursuant to SDCL 1-27-1.5. Therefore, City of Mitchell is also encouraged to make the inundation mapping information for Lake Mitchell publicly available through the National Inventory of Dams or other publicly accessible source.

### Conclusions

1. The City of Mitchell has petitioned to the Water Management Board for a variance from the minimum spillway design requirements pursuant to SDCL 46-7-5.3. Lake Mitchell Dam is an intermediate sized, category 1 (high hazard) dam which is a dam whose failure may cause loss of life.
2. A review of the analysis and report by Houston Engineering Inc. provides a case for recommending approval of the variance request with qualifications. Requiring an increase in spillway capacity from the current capacity of 0.23 PMF to the 0.5 PMF, as required by rules, increases the danger to downstream residences from flooding.
3. Advances in dam safety practices since the passage of SDCL 46-7-5.3 and last updates to the State's Safety of Dams Rules, and following the last variance approval, lead to recommending the following qualifications be attached to approval of this variance request to offer additional public safety protections.
  - The EPP be updated and reviewed annually. The EPP is required to include details on how and when to warn the residents and business owners who are most at risk for loss of life from a dam failure.
  - The dam owner is responsible for ensuring an EPP tabletop exercise be held at least every six years.
  - The variance is subject to periodic review by the Water Rights Program. Upon review, if it is determined that the risk associated with the variance has increased the potential for damage from flooding to downstream residents or property compared with the risk associated with compliance with the Safety of Dam Rules, the Chief Engineer may recommend revocation of the variance to the Board. Any such recommendation is subject to the procedure contained in Chapter 46-2A.

  
Whitney Kilts

Natural Resources Engineer III  
SDDANR-Water Rights Program

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## Lake Mitchell Dam Variance Request

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## Appendix A: Summary of Past Variance requests

| <b>Table A1: Summary of past variance Requests</b> |               |                           |                 |              |                                |                                                                                                                                                                                                                                                                                            |
|----------------------------------------------------|---------------|---------------------------|-----------------|--------------|--------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Dam</b>                                         | <b>NID ID</b> | <b>Requested Variance</b> | <b>Decision</b> | <b>Heard</b> | <b>Year of last EPP Update</b> | <b>Reasoning</b>                                                                                                                                                                                                                                                                           |
| Redfield                                           | SD00699       | 30% PMF                   | Approved        | May 1987     | 2009                           | Allowing a lower spillway capacity only adds 1.6 to 3 feet on top the 20 to 30 feet inundation depths at the 0.5 PMF without a dam, so it was determined there was no increased risk.                                                                                                      |
| Opal                                               | SD00308       | 25% PMF                   | Approved        | Dec 1988     | 2010                           | Allowing lower would not significantly increase risk, the 1st house downstream had an additional 1 ft of flooding but was outside of critical failure zone.                                                                                                                                |
| Lake Farley                                        | SD01030       | 15% PMF                   | Approved        | Dec 1989     | 2020                           | Failure of dam during 50% PMF event would add less than 1 ft of depth to the 18 to 24 ft depths during the 50% PMF with no dam, so it was determined there was no increased risk. Also, the Hwy 15 bridge only being sized for 32 yr flood and creating backwater flooding was considered. |
| Fourth Street                                      | SD            | Not specified             | Denied          | Mar 1991     | 1991                           | Flooding at the DOT building would go from 0.79 ft to 2.47 ft, which would cause significant additional damage to the State's computer system.                                                                                                                                             |
| Lake Wanalain                                      | SD00716       | 26% PMF                   | Approved        | May 1993     | 1992                           | No increased risk from lower capacity was found. Dam provides some downstream flood reduction befits.                                                                                                                                                                                      |



**DEPARTMENT of AGRICULTURE  
and NATURAL RESOURCES**

JOE FOSS BUILDING  
523 E. CAPITOL AVE  
PIERRE SD 57501-3182  
danr.sd.gov

**RECOMMENDATION OF ACTING CHIEF ENGINEER FOR REQUEST FOR A  
VARIANCE FROM SPILLWAY REQUIREMENTS FOR Lake Mitchell Dam, Davison  
County**

Pursuant to SDCL 46-2A-2, the following is the recommendation of the Acting Chief Engineer, Water Rights Program, Department of Agriculture and Natural Resources concerning the petition submitted by the City of Mitchell, Mayor Jordan Hanson, 612 North Main Street, Mitchell, SD 57301, requesting the Water Management Board to grant a variance from spillway requirements for Lake Mitchell Dam.

The Acting Chief Engineer is recommending that the request for a variance to Water Management Board Rule 74:02:08:17 be GRANTED WITH QUALIFICATIONS since failure of the dam due to inadequate spillway capacity will not increase the potential for damage or loss of life from flooding to the inundation area.

The following qualifications to the variance are recommended:

1. Construction or removal of a dam as defined by Administrative Rules of South Dakota (ARSD) 74:02:08:01(7) will need to comply with ARSD Chapter 74:02:08, Safety of Dams Rules, including approval of plans and specifications by the Chief Engineer prior to any reconstruction, alteration, repair, or breaching of the dam.
2. The Emergency Preparedness Plan (EPP) shall be updated and reviewed annually. The EPP is required to include details on how and when to warn the residences and business that are most at risk for loss of life from a dam failure.
3. The dam owner is responsible for ensuring an EPP tabletop exercise be held at least every six years (see below note).
4. The variance is subject to periodic review. Upon review, if it is determined that the risk associated with the variance has increased the potential for damage from flooding to downstream residents of property compared with the risk associated with compliance with the Safety of Dams Rules, the Chief Engineer may recommend revocation of the variance to the Board. Any such recommendation is subject to the procedure contained in SDCL Chapter 46-2A.

See report on variance request for additional information.



Adam Mathiowetz, PE  
Acting Chief Engineer  
March 25, 2026

\*NOTE\* In regard to an EPP tabletop exercise, ARSD 74:02:08:11 states in part, “The Chief Engineer may inspect all category 1 dams at least once every five years...” Previously, the Water Rights Program has recommended to the City of Mitchell to conduct a tabletop exercise along a five-year schedule as part of discussions regarding this variance petition. However, the Water Rights Program typically inspects category 1 (high hazard) dams every three years. The six-year maximum cycle of tabletop exercise is to align with a two-inspection cycle.

# USA TODAY CO.



PO Box 630567 Cincinnati, OH 45263-0567

## **AFFIDAVIT OF PUBLICATION**

Water Rights Program  
Rachel Rodriguez  
Water Rights Program  
523 E Capitol Ave  
Pierre SD 57501

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STATE OF WISCONSIN, COUNTY OF BROWN

The Argus Leader, a daily newspaper published in the city of Sioux Falls, Minnehaha County, State of South Dakota, and personal knowledge of the facts herein state and that the notice hereto annexed was Published in said newspapers in the issue:

04/01/2026

and that the fees charged are legal.  
Sworn to and subscribed before on 04/01/2026

Legal Clerk

Notary, State of WI, County of Brown

My commission expires

Publication Cost: \$92.20

Tax Amount: \$0.00

Payment Cost: \$92.20

Order No: 12203561

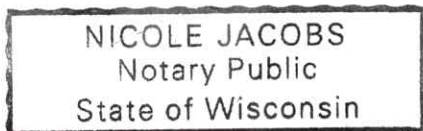
Customer No: 1238021

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**THIS IS NOT AN INVOICE!**

*Please do not use this form for payment remittance.*



**Notice of Hearing on  
Request for Variance  
from  
South Dakota Safety of  
Dams Rules Requested by  
City of Mitchell**

Notice is given that the City of Mitchell, c/o Mayor Hanson, 612 North Main St., Mitchell SD, 57301 has petitioned the Water Management Board to grant a variance from the Safety of Dams Rules, Section 74:02:08:07 Minimum Spillway Design Flood Requirements for the Lake Mitchell Dam. The petition is based on South Dakota Codified Law (SDCL) 46-7-5.3, which states that the Water Management Board may grant a variance upon the finding that failure of the dam due to inadequate spillway capacity will not increase the potential for damage from flooding to downstream residents or property.

Lake Mitchell Dam is an intermediate sized, category 1 (high hazard) dam, which is a dam whose failure may cause loss of life. The dam is 55 feet high and impounds approximately 8,960 acre-feet of water at the spillway elevation, located in the W 1/2 Section 10-T103N R60W in Davison County. An updated hydrologic and hydraulic analysis of the dam shows the dam is not capable of passing 50% of the Probable Maximum Flood (PMF) as required by Administrative Rule of South Dakota (ARSD) 74:02:08:07. This request for a variance from minimum spillway design requirements is to allow Lake Mitchell Dam to retain the current spillway capacity of 23% of the updated PMF.

Computer analyses were performed using HEC-RAS 2D for information both with, and without, a dam breach. The analyses included modeling a dam breach with a 23% PMF storm event and modeling the dam modified to pass the 50% PMF event without dam failure. The results indicate that requiring an increase in spillway capacity to bypass a 50% PMF runoff event as required by rules increases the danger to downstream residences from flooding.

This request to obtain a variance is made pursuant to SDCL 46-2-9, 46-2-17, 46-2A-1 thru 46-2A-6, 46-7-3 thru 46-7-5.3; ARSD 74:02:08:07.

Pursuant to SDCL 46-2A-2 and 46-7-5.3 the Acting Chief Engineer of the Water Rights Program recommends that the request for a variance to ARSD 74:02:08:07 be GRANTED subject to qualifications, since the failure of the dam due to inadequate spillway capacity will not increase the potential for damage from flooding to downstream residents or property. The Acting Chief Engineer's recommendation with qualifications, the peti-

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tion, and staff report are available at <https://danr.sd.gov/public> or contact Amanda Dewell for this information, or other information, at the Water Rights Program address provided below or by email at [amanda.dewell@state.sd.us](mailto:amanda.dewell@state.sd.us).

The request for a variance will be considered by the Water Management Board at 9:40 AM (Central Time), May 6, 2026, Floyd Mathew Training Center, Joe Foss Building, 523 E. Capitol, Pierre SD.

The recommendation of the Acting Chief Engineer is not final or binding upon the Board and the Board is authorized to 1) grant, 2) grant with qualifications, 3) defer, or 4) deny this request for a variance upon reaching a conclusion based on the facts presented at the public hearing.

Any interested person who may be affected by the Board decision in a way that will cause injury that is unique from any injury caused to the general public, within the regulatory authority of the Board, intending to participate in the hearing, present evidence, and cross-examine witnesses in accordance with SDCL Chapter 1-26, must file a written petition to intervene with both the City of Mitchell and the Acting Chief Engineer by April 13, 2026. The petition may be informal but must include the petitioner's reason for opposition of the variance request, signature, and contact information of legal counsel, if obtained.

The May 6, 2026, hearing date will be automatically delayed for at least 20 days upon written request to the Acting Chief Engineer from the applicant or any interested person opposing the petition or the recommendation of the Acting Chief Engineer. The request for a delay must be filed by April 13, 2026.

Any interested person may file a comment on the request for variance with the Acting Chief Engineer. The comment shall be filed on a form provided by the Acting Chief Engineer and is available online at <https://danr.sd.gov/public> or by calling (605) 773-3352 or writing the Acting Chief Engineer at the address provided above. Filing a comment does not make the commenter a party of record or a participant in the hearing. Any comment must be filed by April 13, 2026.

The mailing address for the Acting Chief Engineer is: DANR – Water Rights Program, 523 E Capitol Ave, Pierre SD 57501, while the mailing address for the City of Mitchell is listed above.

The hearing is an adversary proceeding and any party has the right to be present at the hearing and to be represented by a lawyer. An individual may

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represent themselves pro se, while a legal entity like the City of Mitchell needs to be represented by legal counsel. These and other due process rights will be forfeited if they are not exercised at the hearing and decisions of the Board may be appealed to the Circuit Court and State Supreme Court as provided by law.

Notice is given to individuals with disabilities that the meeting is being held in a physically accessible location.

Individuals requiring assistive technology or other services in order to participate in the meeting or materials in an alternate format should contact Brian Walsh, by calling (605) 773-5559 or by email at [Brian.Walsh@state.sd.us](mailto:Brian.Walsh@state.sd.us) as soon as possible but no later than two business days prior to the meeting in order to ensure accommodations are available.

Under SDCL 1-26-17(7) notices must state that "if the amount in controversy exceeds \$2,500.00 or if a property right may be terminated, any party to the contested case may require the agency to use the Office of Hearing Examiners by giving notice of the request to the agency no later than ten days after service of a notice of hearing issued pursuant to SDCL 1-26-17." This is a Notice of Hearing, service is being provided by publication, and the applicable date to give notice to the Acting Chief Engineer is April 13, 2026.

As applicable, the following provides the legal authority and jurisdiction under which the hearing will be held and the particular statutes and rules pertaining to this request for variance: SDCL 1-26-16 thru 1-26-28; SDCL 46-1-14, 46-2-9, 46-2-11, 46-2-17; Chapter 46-2A; and Board Rules ARSD Chapter 74:02:08.

Published once at the total approximate cost of \$92.20 and may be viewed free of charge at [www.sdpublicnotices.com](http://www.sdpublicnotices.com).

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SD Affidavit No. Ek0pUcs6eREaeG5W7nRK

## AFFIDAVIT OF PUBLICATION

State of Florida, County of Broward, ss:

Anjana Bhadoriya, being first duly sworn, deposes and says: That (s)he is a duly authorized signatory of Column Software, PBC and duly authorized agent of the Mitchell Republic, a newspaper printed and published in the City of Mitchell, County of Davison, State of South Dakota.

1. I am the designated agent of The *Mitchell Republic*, a Daily newspaper published in the city of Mitchell, in said County Davison, and State of South Dakota; I have full and personal knowledge of the facts herein stated; that said newspaper is a legal newspaper as defined SDCL 17-2-2.1 through 17-2-2.4 inclusive; that said newspaper has been published within the said County of Davison and State of South Dakota, for at least one year next prior to the first publication of the attached public notice.

2. The newspaper listed on the exhibit published the advertisement of: **General Public Notice Notice**; (1) time: *Wednesday, April 1, 2026*, as required by law or ordinance.

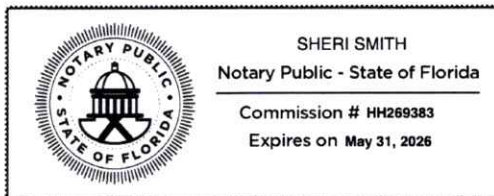
3. That the full amount of the fee charged for the publication of the attached public notice insures to the sole benefit of the publisher of publishers; that no agreement or understanding for the division thereof has been made with any other person, and that no part thereof has been agreed to be paid to any other person whomsoever, that the fees charged for the publication are: \$68.22

*Anjana Bhadoriya*

(Signed) \_\_\_\_\_

### VERIFICATION

State of Florida  
County of Broward



Subscribed in my presence and sworn to before me on this: 04/02/2026

*S. Smith*

Notary Public  
Notarized remotely online using communication technology via Proof.

Notice of Hearing on Request  
for Variance from  
South Dakota Safety of Dams  
Rules Requested by City of  
Mitchell

Notice is given that the City of Mitchell, c/o Mayor Hanson, 612 North Main St., Mitchell SD, 57301 has petitioned the Water Management Board to grant a variance from the Safety of Dams Rules, Section 74:02:08:07 Minimum Spillway Design Flood Requirements for the Lake Mitchell Dam. The petition is based on South Dakota Codified Law (SDCL) 46-7-5.3, which states that the Water Management Board may grant a variance upon the finding that failure of the dam due to inadequate spillway capacity will not increase the potential for damage from flooding to downstream residents or property. Lake Mitchell Dam is an intermediate sized, category 1 (high hazard) dam, which is a dam whose failure may cause loss of life. The dam is 55 feet high and impounds approximately 8,960 acre-feet of water at the spillway elevation, located in the W 1/2 Section 10-T103N R60W in Davison County. An updated hydrologic and hydraulic analysis of the dam shows the dam is not capable of passing 50% of the Probable Maximum Flood (PMF) as required by Administrative Rule of South Dakota (ARSD) 74:02:08:07. This request for a variance from minimum spillway design requirements is to allow Lake Mitchell Dam to retain the current spillway capacity of 23% of the updated PMF. Computer analyses were performed using HEC-RAS 2D for information both with, and without, a dam breach. The analyses included modeling a dam breach with a 23% PMF storm event and modeling the dam modified to pass the 50% PMF event without dam failure. The results indicate that requiring an increase in spillway capacity to bypass a 50% PMF runoff event as required by rules increases the danger to downstream residences from flooding. This request to obtain a variance is made pursuant to SDCL 46-2-9, 46-2-17, 46-2A-1 thru 46-2A-6, 46-7-3 thru 46-7-5.3; ARSD 74:02:08:07. Pursuant to SDCL 46-2A-2 and 46-7-5.3 the Acting Chief Engineer of the Water Rights Program recommends that the request for a variance to ARSD 74:02:08:07 be GRANTED subject to qualifications, since the failure of the dam due to inadequate spillway capacity will not increase the potential for damage from flooding to down-

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stream residents or property. The Acting Chief Engineer's recommendation with qualifications, the petition, and staff report are available at <https://danr.sd.gov/public> or contact Amanda Dewell for this information, or other information, at the Water Rights Program address provided below or by email at [amanda.dewell@state.sd.us](mailto:amanda.dewell@state.sd.us).

The request for a variance will be considered by the Water Management Board at 9:40 AM (Central Time), May 6, 2026, Floyd Mathew Training Center, Joe Foss Building, 523 E. Capitol, Pierre SD.

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hearing and to be represented by a lawyer. An individual may represent themselves pro se, while a legal entity like the City of Mitchell needs to be represented by legal counsel. These and other due process rights will be forfeited if they are not exercised at the hearing and decisions of the Board may be appealed to the Circuit Court and State Supreme Court as provided by law.

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## Rodriguez, Rachel

---

**From:** Rodriguez, Rachel  
**Sent:** Thursday, March 26, 2026 4:04 PM  
**To:** jordan.hanson@cityofmitchellsd.gov  
**Subject:** City of Mitchell Variance - Public Notice  
**Attachments:** Variance Rec & Report.pdf; Mitchell Var Ltr.pdf; ArgusLeader Info.pdf; Re: [EXT] City of Mitchell - Public Notice

Good afternoon,

Attached is a copy of the recommendation and report, and information regarding the public notice for your City of Mitchell Variance Request. As stated in the letter, please contact the paper(s) as soon as possible to authorize publication and arrange for payment. Please note that the Mitchell Republic uses an online portal, see attached email. This information is also being mailed to you today.

Let me know if you have questions. Please confirm receipt of this email.

Thank you,

Rachel Rodriguez  
DANR | Program Assistant  
Rachel.Rodriguez@state.sd.us



## Rodriguez, Rachel

---

**From:** Renniel Pasia <forumlegals@column.us>  
**Sent:** Thursday, March 26, 2026 3:38 PM  
**To:** Rodriguez, Rachel; jordan.hanson@cityofmitchellsd.gov  
**Subject:** Re: [EXT] City of Mitchell - Public Notice

Hi there,

Your notice is scheduled to be published in the Mitchell Republic on April 1, 2026. Your Notice ID is: [Ek0pUcs6eREaeG5W7nRK](#)

You will be receiving a notification from Column Support with your proof. If you don't see it, check your spam folder and any email restrictions you may have.

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If you have any questions or concerns, please don't hesitate to let us know so we can look into it!

—  
// Renniel



On March 26, 2026 at 1:54 PM EDT [rachel.rodriquez@state.sd.us](mailto:rachel.rodriquez@state.sd.us) wrote:

Attached is a notice to be published on April 1, 2026.

City of Mitchell, c/o Mayor Hanson, 612 North Main St., Mitchell SD, 57301, 605-995-8420, [Jordan.hanson@cityofmitchellsd.gov](mailto:Jordan.hanson@cityofmitchellsd.gov) has been notified to contact you to authorize publication and arrange for payment.

Please send the affidavit or return the attached Proof of Publication form ASAP to the Water Rights Program, Attn Rachel Rodriguez, 523 E Capitol Ave, Pierre SD 57501.

Let me know if you have questions. Please confirm receipt of this email.

Thank you,

Rachel Rodriguez  
DANR | Program Assistant  
[Rachel.Rodriguez@state.sd.us](mailto:Rachel.Rodriguez@state.sd.us)



## Rodriguez, Rachel

---

**From:** Gannett Legals Public Notices 4 <ganlegpubnotices4@gannett.com>  
**Sent:** Thursday, March 26, 2026 1:23 PM  
**To:** Rodriguez, Rachel  
**Subject:** RE: [EXT] 12203561 City of Mitchell - Public Notice  
**Attachments:** 12203561.pdf

Good Afternoon,

Please find your order confirmation and proof of ad attached.

Your ad is set to run in the Argus Leader on April 1. The order cost is \$92.20 which includes an affidavit, that will be mailed to you 7-10 business days after the last day of the ad printing. Please reply by 8:00 AM on Monday with any changes.

**Your notice is scheduled to run per your request and will publish unless you reply to this email requesting changes or to cancel.**

**Our invoicing is done on a monthly basis.  
You will receive an invoice for this ad after the close of the month.**

All orders are subject to a non-refundable 3.99% service fee. As an incentive for customers, we provide a discount off the order cost equal to the 3.99% service fee if you pay by ACH. Pay by ACH and Save! Final order cost provided at time of payment and via a receipt.

Thank you!

Brittany Grady  
Public Notice Representative

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**From:** Rodriguez, Rachel <Rachel.Rodriguez@state.sd.us>  
**Sent:** Thursday, March 26, 2026 12:57 PM  
**To:** SFA-Legals mbx <allegals@appleton.gannett.com>  
**Subject:** 12203561 City of Mitchell - Public Notice

Attached is a notice to be published on April 1, 2026.

City of Mitchell, c/o Mayor Hanson, 612 North Main St., Mitchell SD, 57301, 605-995-8420,  
[Jordan.hanson@cityofmitchellsd.gov](mailto:Jordan.hanson@cityofmitchellsd.gov) has been notified to contact you to authorize publication and arrange for payment.

Please send the affidavit or return the attached Proof of Publication form ASAP to the Water Rights Program, Attn Rachel Rodriguez, 523 E Capitol Ave, Pierre SD 57501.

Let me know if you have questions. Please confirm receipt of this email.

Thank you,

Rachel Rodriguez  
DANR | Program Assistant  
[Rachel.Rodriguez@state.sd.us](mailto:Rachel.Rodriguez@state.sd.us)





Order Confirmation

Not an Invoice

|                   |                                                              |
|-------------------|--------------------------------------------------------------|
| Account Number:   | 1238021                                                      |
| Customer Name:    | Mitchell, City Of                                            |
| Customer Address: | Mitchell, City Of<br>612 N Main St<br>Mitchell SD 57301-2620 |
| Contact Name:     | MITCHELL, CITY OF                                            |
| Contact Phone:    |                                                              |
| Contact Email:    |                                                              |
| PO Number:        |                                                              |

|                    |            |
|--------------------|------------|
| Date:              | 03/26/2026 |
| Order Number:      | 12203561   |
| Prepayment Amount: | \$ 0.00    |

|                   |          |
|-------------------|----------|
| Column Count:     | 1.0000   |
| Line Count:       | 274.0000 |
| Height in Inches: | 30.2400  |

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| Product                     | #Insertions | Start - End             | Category       |
|-----------------------------|-------------|-------------------------|----------------|
| SFA SiouxFalls Argus Leader | 1           | 04/01/2026 - 04/01/2026 | Public Notices |
| SFA argusleader.com         | 1           | 04/01/2026 - 04/01/2026 | Public Notices |

As an incentive for customers, we provide a discount off the total order cost equal to the 3.99% service fee if you pay with Cash/Check/ACH. Pay by Cash/Check/ACH and save!

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|------------------------------------------|---------|
| Total Cash Order Confirmation Amount Due | \$92.20 |
| Tax Amount                               | \$0.00  |
| Service Fee 3.99%                        | \$3.68  |
| Cash/Check/ACH Discount                  | -\$3.68 |
| Payment Amount by Cash/Check/ACH         | \$92.20 |
| Payment Amount by Credit Card            | \$95.88 |

|                           |         |
|---------------------------|---------|
| Order Confirmation Amount | \$92.20 |
|---------------------------|---------|

## Rodriguez, Rachel

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**From:** Rodriguez, Rachel  
**Sent:** Thursday, March 26, 2026 12:54 PM  
**To:** legals@mitchellrepublic.com  
**Subject:** City of Mitchell - Public Notice  
**Attachments:** CofMitchell Variance.docx; FORM8.FRM.doc

Attached is a notice to be published on April 1, 2026.

City of Mitchell, c/o Mayor Hanson, 612 North Main St., Mitchell SD, 57301, 605-995-8420, [Jordan.hanson@cityofmitchellsd.gov](mailto:Jordan.hanson@cityofmitchellsd.gov) has been notified to contact you to authorize publication and arrange for payment.

Please send the affidavit or return the attached Proof of Publication form ASAP to the Water Rights Program, Attn Rachel Rodriguez, 523 E Capitol Ave, Pierre SD 57501.

Let me know if you have questions. Please confirm receipt of this email.

Thank you,

Rachel Rodriguez  
DANR | Program Assistant  
[Rachel.Rodriguez@state.sd.us](mailto:Rachel.Rodriguez@state.sd.us)





**DEPARTMENT of AGRICULTURE  
and NATURAL RESOURCES**

JOE FOSS BUILDING  
523 E CAPITOL AVE  
PIERRE SD 57501-3182  
danr.sd.gov

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

March 26, 2026

City of Mitchell  
c/o Mayor Hanson  
612 North Main Street  
Mitchell SD 57301

Dear Mayor Hanson,

The Notice of Hearing on a Request for a Variance for the City of Mitchell has been sent to the publisher of the Mitchell Daily Republic printed in Mitchell (see attachment for contact information) and the Argus Leader printed in Sioux Falls (see attachment for contact number). For your information, a copy of the notice, the recommendation of the Acting Chief Engineer and report on the variance are enclosed. Please review the notice prior to publication and notify this office if you have any corrections or questions.

Be sure to contact the above newspapers to authorize publication of your Notice and to arrange for payment. Early contact with the papers can eliminate delays. Upon receiving authorization from you, the publishers have been instructed to publish your notice. The newspapers have also been instructed to send us the Proof of Publication. We must receive Proof of Publication before the variance request can be considered by the Water Management Board.

Sincerely,

*Rachel Rodriguez*

Rachel Rodriguez  
Water Rights Program  
(605) 773-3352

enclosures

Notice of Hearing on Request for Variance from  
South Dakota Safety of Dams Rules Requested by City of Mitchell

Notice is given that the City of Mitchell, c/o Mayor Hanson, 612 North Main St., Mitchell SD, 57301 has petitioned the Water Management Board to grant a variance from the Safety of Dams Rules, Section 74:02:08:07 Minimum Spillway Design Flood Requirements for the Lake Mitchell Dam. The petition is based on South Dakota Codified Law (SDCL) 46-7-5.3, which states that the Water Management Board may grant a variance upon the finding that failure of the dam due to inadequate spillway capacity will not increase the potential for damage from flooding to downstream residents or property.

Lake Mitchell Dam is an intermediate sized, category 1 (high hazard) dam, which is a dam whose failure may cause loss of life. The dam is 55 feet high and impounds approximately 8,960 acre-feet of water at the spillway elevation, located in the W 1/2 Section 10-T103N R60W in Davison County. An updated hydrologic and hydraulic analysis of the dam shows the dam is not capable of passing 50% of the Probable Maximum Flood (PMF) as required by Administrative Rule of South Dakota (ARSD) 74:02:08:07. This request for a variance from minimum spillway design requirements is to allow Lake Mitchell Dam to retain the current spillway capacity of 23% of the updated PMF.

Computer analyses were performed using HEC-RAS 2D for information both with, and without, a dam breach. The analyses included modeling a dam breach with a 23% PMF storm event and modeling the dam modified to pass the 50% PMF event without dam failure. The results indicate that requiring an increase in spillway capacity to bypass a 50% PMF runoff event as required by rules increases the danger to downstream residences from flooding.

This request to obtain a variance is made pursuant to SDCL 46-2-9, 46-2-17, 46-2A-1 thru 46-2A-6, 46-7-3 thru 46-7-5.3; ARSD 74:02:08:07.

Pursuant to SDCL 46-2A-2 and 46-7-5.3 the Acting Chief Engineer of the Water Rights Program recommends that the request for a variance to ARSD 74:02:08:07 be GRANTED subject to qualifications, since the failure of the dam due to inadequate spillway capacity will not increase the potential for damage from flooding to downstream residents or property. The Acting Chief Engineer's recommendation with qualifications, the petition, and staff report are available at <https://danr.sd.gov/public> or contact Amanda Dewell for this information, or other information, at the Water Rights Program address provided below or by email at [amanda.dewell@state.sd.us](mailto:amanda.dewell@state.sd.us).

The request for a variance will be considered by the Water Management Board at 9:40 AM (Central Time), May 6, 2026, Floyd Mathew Training Center, Joe Foss Building, 523 E. Capitol, Pierre SD.

The recommendation of the Acting Chief Engineer is not final or binding upon the Board and the Board is authorized to 1) grant, 2) grant with qualifications, 3) defer, or 4) deny this request for a variance upon reaching a conclusion based on the facts presented at the public hearing.

Any interested person who may be affected by the Board decision in a way that will cause injury that is unique from any injury caused to the general public, within the regulatory authority of the Board, intending to participate in the hearing, present evidence, and cross-examine witnesses in accordance with SDCL Chapter 1-26, must file a written petition to intervene with both the City of Mitchell and the Acting Chief Engineer by April 13, 2026. The petition may be informal but must include the petitioner's reason for opposition of the variance request, signature, and contact information of legal counsel, if obtained.

The May 6, 2026, hearing date will be automatically delayed for at least 20 days upon written request to the Acting Chief Engineer from the applicant or any interested person opposing the petition or the recommendation of the Acting Chief Engineer. The request for a delay must be filed by April 13, 2026.

Any interested person may file a comment on the request for variance with the Acting Chief Engineer. The comment shall be filed on a form provided by the Acting Chief Engineer and is available online at <https://danr.sd.gov/public> or by calling (605) 773-3352 or writing the Acting Chief Engineer at the address provided above. Filing a comment does not make the commenter a party of record or a participant in the hearing. Any comment must be filed by April 13, 2026.

The mailing address for the Acting Chief Engineer is: DANR – Water Rights Program, 523 E Capitol Ave, Pierre SD 57501, while the mailing address for the City of Mitchell is listed above.

The hearing is an adversary proceeding and any party has the right to be present at the hearing and to be represented by a lawyer. An individual may represent themselves pro se, while a legal entity like the City of Mitchell needs to be represented by legal counsel. These and other due process rights will be forfeited if they are not exercised at the hearing and decisions of the Board may be appealed to the Circuit Court and State Supreme Court as provided by law.

Notice is given to individuals with disabilities that the meeting is being held in a physically accessible location. Individuals requiring assistive technology or other services in order to participate in the meeting or materials in an alternate format should contact Brian Walsh, by calling (605) 773-5559 or by email at [Brian.Walsh@state.sd.us](mailto:Brian.Walsh@state.sd.us) as soon as possible but no later than two business days prior to the meeting in order to ensure accommodations are available.

Under SDCL 1-26-17(7) notices must state that “if the amount in controversy exceeds \$2,500.00 or if a property right may be terminated, any party to the contested case may require the agency to use the Office of Hearing Examiners by giving notice of the request to the agency no later than ten days after service of a notice of hearing issued pursuant to SDCL 1-26-17.” This is a Notice of Hearing, service is being provided by publication, and the applicable date to give notice to the Acting Chief Engineer is April 13, 2026.

As applicable, the following provides the legal authority and jurisdiction under which the hearing will be held and the particular statutes and rules pertaining to this request for variance: SDCL 1-26-16 thru 1-26-28; SDCL 46-1-14, 46-2-9, 46-2-11, 46-2-17; Chapter 46-2A; and Board Rules ARSD Chapter 74:02:08.

Published once at an approximate cost of\_\_\_\_\_.



**DEPARTMENT of AGRICULTURE  
and NATURAL RESOURCES**

JOE FOSS BUILDING  
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PIERRE SD 57501-3182  
danr.sd.gov

May 12, 2026

**NOTICE**

TO: City of Mitchell  
c/o Jordan Hanson, Mayor  
612 North Main Street  
Mitchell, SD 57301

Emily Greco, Assistant Attorney General  
Counsel for Chief Engineer  
1302 East Highway 14, Suite 1  
Pierre SD 57501

FROM: Adam Mathiowetz, Acting Chief Engineer *Adam Mathiowetz*  
SD DANR - Water Rights Program

SUBJECT: Granting of Variance from Spillway Design Requirements for Mitchell Dam

The Water Management Board held a hearing on May 6, 2026, to consider a request for a variance from spillway design requirements for Mitchell Dam (NID No. SD00685) pursuant to SDCL 46-7-5.3. The Board found that failure of Mitchell Dam due to inadequate spillway capacity will not significantly increase the potential for damage from flooding to downstream residents or property at the current level of downstream development. Therefore, the Board moved to grant a variance from the Safety of Dams Rules, ARSD 74:02:08:07, allowing Mitchell Dam to maintain the current spillway capacity.

The variance was granted subject to the following qualifications:

1. Construction or removal of a dam as defined by Administrative Rules of South Dakota (ARSD) 74:02:08:01(7) will need to comply with ARSD Chapter 74:02:08, Safety of Dams Rules, including approval of plans and specifications by the Chief Engineer prior to any reconstruction, alteration, repair, or breaching of the dam.
2. The Emergency Preparedness Plan (EPP) shall be updated and reviewed annually. The EPP is required to include details on how and when to warn the residences and business that are most at risk for loss of life from a dam failure.
3. The dam owner is responsible for ensuring an EPP tabletop exercise be held at least every six years (see below note).
4. The variance is subject to periodic review. Upon review, if it is determined that the risk associated with the variance has increased the potential for damage from flooding to downstream residents of property compared with the risk associated with compliance with the Safety of Dams Rules, the Chief Engineer may recommend revocation of the variance to the Board. Any such recommendation is subject to the procedure contained in SDCL Chapter 46-2A.

**NOTE:** Regarding EPP tabletop exercises, ARSD 74:02:08:11 states in part, "The Chief Engineer may inspect all category 1 dams at least once every five years..." Previously, the Water Rights Program has recommended the City of Mitchell conduct a tabletop exercise along a five-year schedule as part of discussions regarding this variance petition. However, the Water Rights Program typically inspects category 1 (high hazard) dams every three years. The six-year maximum cycle of tabletop exercise is to align with a two-inspection cycle.

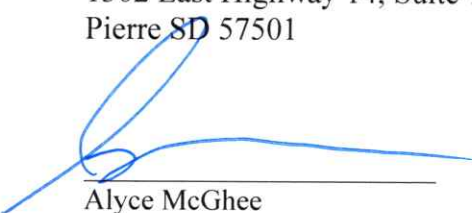
CERTIFICATION

The undersigned hereby certifies under the penalty of perjury that I have personally deposited a true and correct NOTICE dated May 12, 2026, into the United States Mail in Pierre, South Dakota, first class postage prepaid to the following on May 12, 2026.

City of Mitchell  
c/o Jordan Hanson, Mayor  
612 N Main St  
Mitchell SD 57301

**Also sent inter-office to:**

Emily Greco, Assistant Attorney General  
1302 East Highway 14, Suite 1  
Pierre SD 57501

  
\_\_\_\_\_  
Alyce McGhee  
Senior Secretary-Water Rights

STATE OF SOUTH DAKOTA            )  
                                                          ) SS  
COUNTY OF HUGHES                )

Sworn to, before me, this 12<sup>th</sup> day of May, 2026.

  
\_\_\_\_\_  
Rachel Rodriguez Notary Public  
My Commission expires May 16, 2029

