Considered: _____

Flood Control
~~WATER PERMIT NO.~~ FC-4

MAP No. same

Name of Applicant Brant Lake Improvement Association

Post Office Address 3560 Gateway # 303, Sioux Falls, SD 57106

Amount of Water Claimed none Total Acres N.A.

Source of Water Supply Brant Lake

Water to be used for Flood Control County Lake

About 1 ½ miles NW of Chester.

PROOF OF PUBLICATION: Received _____ Not Received _____

APPLICATION: Approved _____ Subject to _____

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

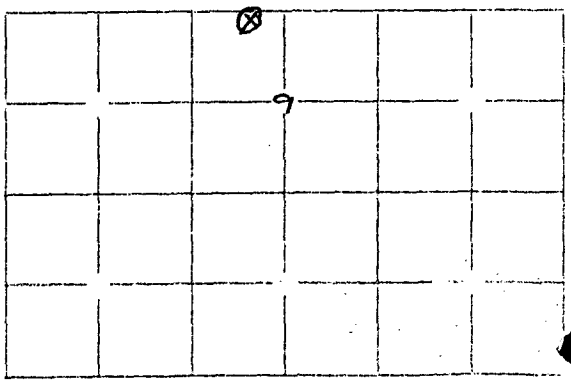
PRIORITY Date Received Nov. 6, 1985 Fee 50.00 Remarks propose to increase lake outlet by 40 feet and lower 40 foot extension by 12 inches below existing outlet elevation

Corrected Application Received _____ Period of Annual Use _____

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

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

Diversion Point Brant Lake Outlet: NE¼NW¼ section 9-T105N-R51W



Land to be Irrigated NA

Well Log: Driller NA Licensed YES ___ NO ___

Depth of Well _____ REMARKS _____

Type of Map sketch PREPARED BY Tom Brandner Reviewed and the Number

Signed on July 8, 1986 By Ron Duvall

FORM 2: Application for uses other than irrigation (type or print)

Mail to: Water Rights Div.
DWNR, Foss Bldg.
Pierre, SD 57501
(605) 773-3352

No. FC-4 Hydrologic Unit 10170203
Map No. Same Basin Big Sioux River
Newspaper Madison Daily Leader Box 348 (daily)

A FLOOD CONTROL

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

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

RECEIVED NOV 1985 DIVISION OF WATER RIGHTS Pierre, SD

Type of Application: Check one or more of the following

New ☒ Vested Right ☐ Future Use ☐ Change Use ☐
☐ Amend Permit No._____ with old priority date retained
Change diversion point(s) ☐ Add diversion point(s) ☐ Other ☒ Flood Control Permit
☐ Application to: Change diversion point(s) ☐ Add diversion point(s) ☐ on Permit No. _____
☐ Construction to use water reserved by Future Use Permit No._____

1. Name of Applicant Brant Lake Improvement Association Phone No. 361 8068
   Post Office Address 3560 Gateway #303 Sioux Falls (Street, RR or Box) State SD Zip Code 57106
2. Amount of water claimed (c.f.s) none-Flood Control
3. Source of water supply Brant Lake
4. Location of point of diversion Brant Lake outlet structure located in NE 1/4 NW 1/4
   Section 9, T105N, R51W
   County Lake
5. Counties where water will be used _____
6. Annual period during which water is to be used _____
7. Give a brief description of proposed project. When available include any preliminary engineering report or other reports or information that will help explain the project. (Attach sheet if more space is needed)
   This application is to increase the width of the outlet structure for Brant Lake to allow the lake level to be lowered more rapidly during periods of high inflow and reduce damage from flooding and erosion around the lake shore.

Attachments: Attach Form 2A if diversion from a well or dugout, or if storage of water, is proposed. Attach map (see instruction)

STATE OF SOUTH DAKOTA)
County of Minnehaha) ss

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

Signed Bob Ellingson

Subscribed and sworn to before me this 7th day of November 1985

Notary Public (or other qualified officer)

PLAN VIEW

SCALE 1"=10'

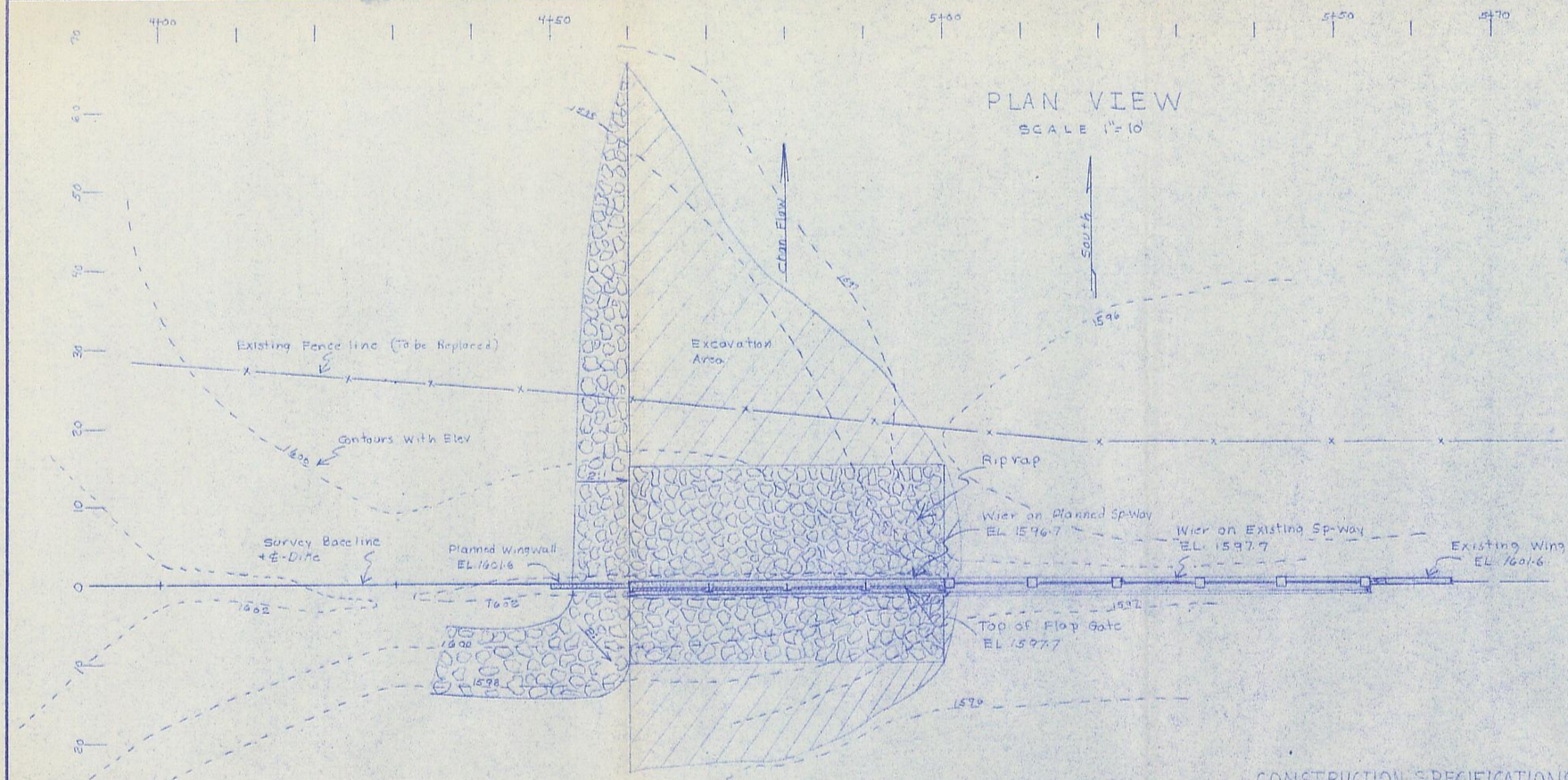


TABLE OF QUANTITIES

ITEM	UNIT	QUANITY
Excavation	C.Y	339
Obstruction Removal + Clearing	Lump	Amt.
Filter Gravel	C.Y.	24
Rock Riprap	C.Y.	49
Concrete (Wier + Wingwall	C.Y	4.5
Steel (reinforcement Bars	lbs	169.5
Steel Flap Gates (2' by 10')	NO	4
Steel Support Post (1" Bars 3' by 3 on 2')	NO	5

CONSTRUCTION NOTES

1. Existing Wingwall at sta 4+90 to 5+00 is To be removed, along With trees from sta 4+55 to 5+90 + all to be removed from site
2. Excavated rocks Will be Salvaged and used To repair Dike at 4+80 and as Riprap. Earth spoil will be used to back Fill neck To dike From sta 3+50 to 4+50 (down Stream Side)
3. All disturbed areas will be Seeded

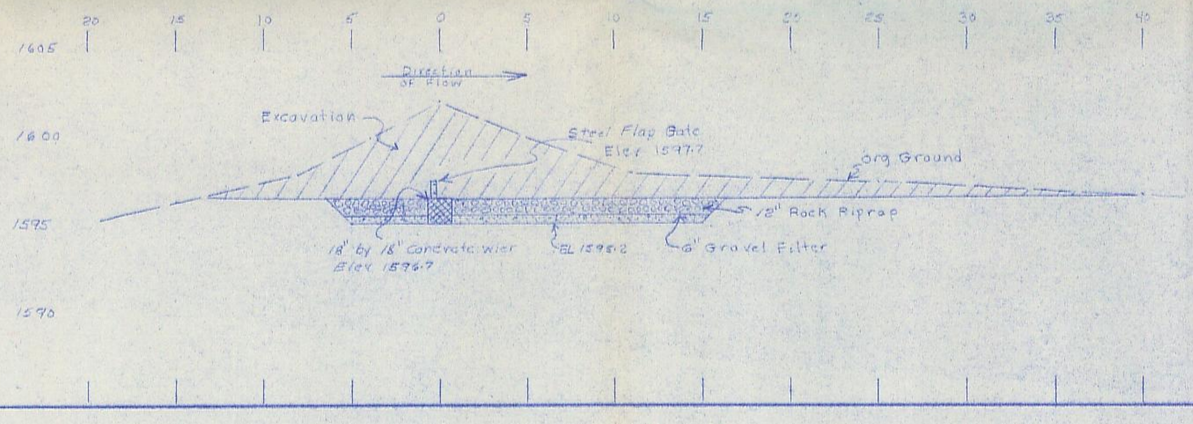
CONSTRUCTION SPECIFICATIONS

(Attached)

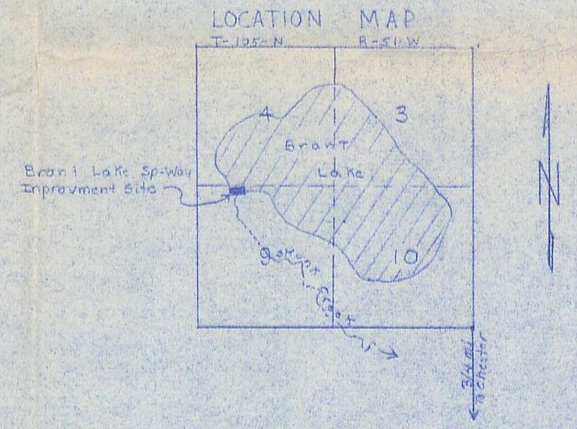
SD-2	Clearing + Grubbing
SD-3	Structure Removal
SD-8	Rock Riprap + Bedding
SD-12B	Concrete (up to 10 c.y)
SD-13	Steel Reinforcement
SD-28	Seeding

CROSS SECTION

STA - 4+90



LOCATION MAP



BRANT LAKE SP-WAY IMPROVMENT PROJECT

SUBMITTED BY Brant Lake Improvment Assn.

DESIGN + DRAWN BY Jean Myers Civil Eng. Asst.

Sheet No 1 of 2

WATER PERMIT

The Water Management Board hereby approves Water Permit Application No. FC-4

Brant Lake Improvement Association (Applicant) 3560 Gateway, #303 Sioux Falls (Post Office Address)

SD (State) 57106 (Zip Code) With the following qualifications.

see attached Flood Control Permit

Date of first receipt of application _____, 19____.

Date of return to applicant for correction, amendments or changes required _____, 19____.

Date of receipt of corrected application _____, 19____. Approved _____, 19____.

The Water Management Board hereby approves this Water Permit No. _____ authorizing the construction of the water use system and the placing of water to beneficial use as stated in the Application and as qualified in the Water Permit approval, subject, however, to the following limitations and conditions:

1. The date from which applicant may claim right is _____, 19____.
2. The equivalent of at least one-fifth of the specified work is to be completed on or before _____, 19____.
3. The whole of said work is to be completed on or before _____, 19____.
4. The limit of time from proof of beneficial use of water appropriated in accordance herewith is _____, 19____.
5. The water appropriated shall be used for the purpose of _____

   _____
6. The prior right of all persons who, by compliance with the laws of the State of South Dakota, have acquired a right to the use of water must not be unlawfully impaired by this appropriation.
7. The amount of the appropriation herein granted shall not exceed _____ cubic feet per second; neither shall it exceed the capacity of the above described water supply system nor shall it exceed the amount of water needed for beneficial uses served and to which water is actually and beneficially applied for _____ on or before _____, 19____; said water to be used during the following described annual period: _____

WATER MANAGEMENT BOARD

By: _____
Chief Engineer
Division of Water Rights
Dept. of Water and Natural Resources

_____, 19____

FLOOD CONTROL PERMIT No. FC-4

The Water Management Board hereby approves Flood Control Permit No. FC-4, Brant Lake Improvement Association, 3560 Gateway #303, Sioux Falls, South Dakota 57106 to widen the Brant Lake outlet by 30 feet (outlet elevation 1597.8 ft. msl.) and lower 30 feet of the existing outlet 6 inches. Approval of the permit does not increase the likelihood or severity of downstream flood damages, does not impair existing water rights or endanger human life or property. The permit authorizes construction of the proposed project to reduce lake shoreline flood damages with the following qualifications:

1. Prior to work under this permit downstream restrictions to flow in the Skunk Creek channel between the Brant Lake Outlet and the east side of the road on the Section 23 and 24 section line, T105N, R51W will be removed and/or road culvert capacities be increased where necessary to pass at least an additional 300 cubic feet per second (cfs) or a total of 950 cfs. Any "Dry wash" or lowered roadway installed in lieu of additional culvert capacity shall be maintained to provide the design flow capacity.

2. The outlet structure shall be widened by 30 feet and 30 feet of the existing portion of the structure lowered six inches.

3. That the outlet construction, future outlet maintenance and repair will be the responsibility of the Brant Lake Improvement Association.

4. That the ordinary high water mark (High WM) elevation 1598.3 feet. msl. may not be affected by this Flood Control Permit and that the Board may review this permit if it appears that the High WM is being affected or a new High WM is being formed above or below the established High WM.

Date of first receipt of application November 6, 1985.

Approved December 10, 1986.

1. The date from which the applicant may claim right is November 6, 1985.

2. The whole of said work is to be completed on or before December 10, 1991.

3. The project shall be used for the purpose of flood control on Brant Lake.

4. The prior water rights of all persons who, by compliance with the laws of the State of South Dakota, have acquired a right to the use of the water must not be unlawfully impaired by this flood control project

WATER MANAGEMENT BOARD

John Hoch

Chief Engineer, Water Rights Division
Dept. of Water and Natural Resources

FEB 17 1987

STATE OF SOUTH DAKOTA

BEFORE THE WATER MANAGEMENT BOARD

IN RE APPLICATION FOR FLOOD CONTROL PERMIT NO. 4	)))	FINDINGS OF FACT, CONCLUSIONS OF LAW AND FINAL DECISION

FINDINGS OF FACT

1. Brant Lake is presently subject to and is experiencing substantial erosion along its shoreline and is also experiencing flooding during times of high water.

2. Widening the outlet structure by 30 feet and lowering the existing portion of the structure six inches, as proposed in this Application and modification, would significantly decrease damage from erosion and from flooding in the immediate area of the lake.

3. Widening of the outlet structure could cause additional damage downstream if the Flood Control Permit is not conditioned to provide for increased downstream flows.

4. If the downstream road culvert capacities are increased as set out in a section entitled "Final Decision", the likelihood of severity of damages in the area below the lake will not be increased.

5. The project will not, if accomplished in accordance with the Final Decision, endanger human life or property or impair existing water rights.

6. The complaint of certain surrounding landowners that the grant of the permit will not alleviate flooding to which they have been subject is without merit in that the widened spillway and the placement of the flood control outlet at six inches below the present outlet the

lake will drain faster after heavy precipitation; this will decrease the time their property is flooded.

CONCLUSIONS OF LAW

1. All notices required by the Constitution and statute have been given.

2. The grant of the permit will reduce damage from erosion in the lake and from flooding in the immediate area of the lake.

3. The grant of the permit will not increase the likelihood of damage in areas other than the immediate project area as follows:

(1) Areas downstream of the project will be protected if culvert capacities are modified as set out in the final decision; and

(2) Certain surrounding landowners will not experience a greater likelihood of damage to their property because the water will pass out of the lake more quickly.

4. Even if certain surrounding landowners opposing this permit will not affirmatively benefit from the grant of the permit, the grant of the permit is nonetheless proper if the likelihood of damage to them is not increased. The permit does not increase the possibility of damage to these surrounding landowners.

5. The permit should be granted with qualifications.

FINAL DECISION

The application for Flood Control Permit No. 4 is granted with the following conditions and qualifications:

1. Prior to work under this permit downstream restrictions to flow in the Skunk Creek channel between the Brant Lake Outlet and the east side of the road on the Sections 23 and 24 section line, T105N, R51W will be removed and/or road culvert capacities be increased where necessary to pass at least an additional 300 cubic feet per second (cfs) or a total of 950 cfs. Any "dry wash" or lowered roadway installed in lieu of additional culvert capacity shall be maintained to provide the design flow capacity.

2. The outlet structure shall be widened by 30 feet and 30 feet of the existing portion of the structure lowered six inches.

3. That the outlet construction, future outlet maintenance and repair will be the responsibility of the Brant Lake Improvement Association.

4. That the ordinary high water mark (High WM) elevation 1598.3 ft. msl. may not be affected by this Flood Control Permit and that the Board may review this permit if it appears that the High WM is being affected or a new High WM is being formed above or below the established High WM.

By the Board

Marcus B. Sanderson

December 30, 1986

Brant Lake Improvement Association

Chester, South Dakota 57016

Mr. John Hatch, Chief Engineer
Water Rights Division
Water & Natural Resources
Joe Foss Building,
Pierre, SD 57501-3181

Re: Your letter, October 23, 1985

Dear Mr. Hatch:

Enclosed is the completed application for a Flood Control Permit to widen the Brant Lake outlet and our check No. 309 for $50.00, application fee.

Thank you for your attention and consideration.

Sincerely,

Bob Ellingson lh

BOB ELLINGSON,
President
BE/lh
enc:

November 5, 1985

RECEIPT

Division of Water Rights

South Dakota Department of Water and Natural Resources

№ 4 10227

Pierre, November 6, 1985

RECEIVED OF Brant Lake Improvement Association, 3560 Gateway, #303, Sioux Falls SD 57106

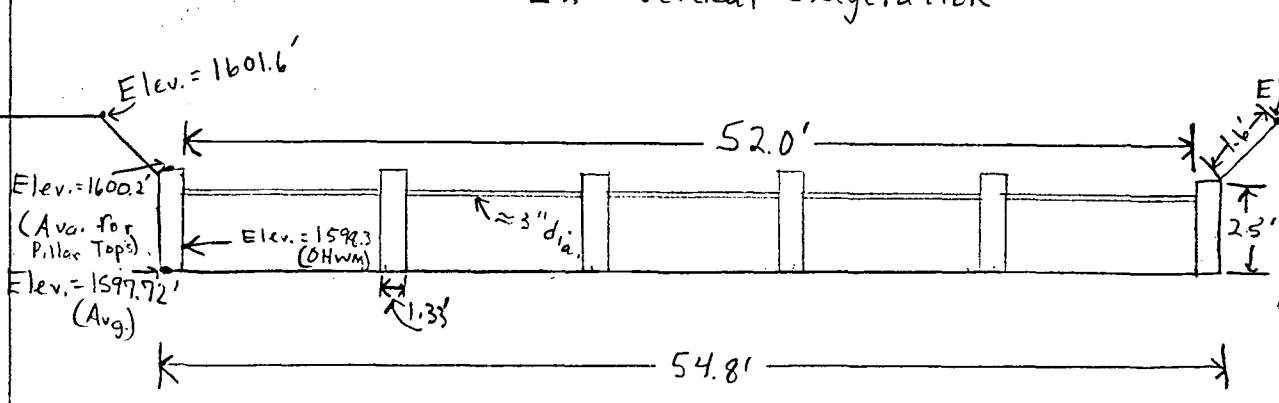
the following amount in fees for services rendered as provided for by law:

Fee for Application for Permit No._____ to Appropriate Water, to construct works and to put water to beneficial use _____	50	00
Fee for Application for Permit No._____ to Appropriate Water for Future Use _____		
Fee to retain Future Use Permit No._____ after period of seven years.		
Fee for Inspecting Constructed Works, confirming beneficial use and issuing Water License No. _____		
Fee for Filing Transfer Form_____		
Fee for Filing Extension Request _____		
Fee for Certified Copy of _____		
Fee for Print Copy of Map _____		
Fee for Certifying_____		
Fee for_____ (Any Other Work Provided by Law) **Total**	50	00

By John Hatch
Chief Engineer JOHN HATCH(ms)

BRANT LAKE SURVEY FC-64

1. Downstream Outlet Structure



Stream bottom downstream = 1596.5' (Elev.)

Ron Donald
Natural Resources Eng
7/8/86

South Dakota Department of
Water & Natural Resources
Joe Foss Building
523 East Capitol
Pierre, South Dakota 57501-3181

Water Rights Division
605 773-3352

October 24, 1984

Norman and Tim Basler
Rt 1 Box 69
Wentworth SD 57075

Jim Brookshire
Box 470
Madison SD 57402

Jerry and Ethel Erickson
Box 393
Sioux Falls SD 57101

RE: Brant Lake

This letter is in response to your visit September 7, 1984 in my office in Pierre. Norman Basler stated that he never received notice of the Water Management Board meeting concerning the Brant Lake High Water Mark and Outlet elevation hearing. The "Certification for Mailing Notices" dated November 12, 1981 shows that a notice was sent to Mr. Basler. The notices were mailed first class mail and the notice was not returned to us.

Mr. Garrett Spawn was contacted during a field investigation September 26, 1984 by Division of Water Rights Engineers. Mr. Spawn indicated that in the past, planks had been put in and taken out of the outlet works at various times. Mr. Spawn was asked about the location of the USGS bench mark you made reference to. Mr. Spawn indicated the only bench mark he knew of around the lake was the one we established. This is just east of the outlet channel.

The elevation of the concrete placed in the outlet was checked on the east side, middle, and west side of the outlet. The elevations were 1597.79, 1597.74 and 1597.74 respectively. These are all below the established outlet elevation of 1597.8 msl set by the Water Management Board. The elevation of the fish trap is at 1596.7 feet or approximately 1.0 foot below the outlet elevation.

The water level elevation was 1597.5 msl on September 26, 1984. This is 0.3 feet below the outlet. The shoreline was checked at four places around the lake. With the water at this level, there was no evidence that a new high water mark is being established. It is obvious that the extreme water levels earlier this year did cause damage to the shoreline.

You presented a petition requesting that the outlet structure be changed to allow removable planks to be placed in the outlet. The petition is contrary to the position taken by the Brant Lake Association on the outlet. In 1979, after several years without planks in the outlet structure, the Brant Lake Asso. replaced the missing planks. After the Water Management Board established the Ordinary High Water Mark and outlet elevations in December 1981, concrete was placed between the planks.

I believe your request to change the outlet should be made to the Brant Lake Association. The Association can then discuss the outlet with the Department of Game, Fish & Parks. The Department of Game, Fish & Parks through Water Right No. 792-3 has certain responsibilities for managing the water below the established outlet elevation.

From my own review of the Brant Lake outlet and water level information, I do not believe removable planks would have changed the flooding problems experienced during 1984. Some of the flooding problems you mentioned are the result of homes being constructed too close to the High Water Mark elevation.

One reason for establishment of an official High Water Mark elevation is to provide a reference point to use when locating new homes, or when changes are made with older homes. The Brant Lake water level was below the outlet elevation for several years prior to recent high water conditions. Unfortunately, during low water level years, people tend to forget and do build closer to the High Water Mark elevation. With high water, lower elevation homes will then be more likely to experience flooding problems.

Very truly yours,

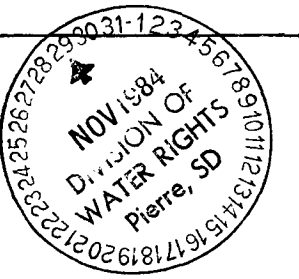
John Hatch

JOHN HATCH, Chief Engineer
Water Rights Division

JH:ks

bcc: Kay Cool, Department of Game, Fish & Parks
Bob Norton, President, Brant Lake Association

J. G. JERRY ERICKSON
SINGER FURNITURE CO.
BOX 393 SIOUX FALLS, S.D. 57101
~~605-338-6622~~



Mr. John Hatch, Chief Engineer
Dept of Water & Natural Resources
Pierre, South Dakota

PLEASE REPLY TO:
8001 East Broadway #6015
Mesa, Az. 85208

Dear Mr. Hatch:

I am responding on my own behalf to your letter of October 24th regarding the meeting in your office on September 7th on the flood problems on Lake Brant.

There is some confusion in my mind in the last paragraph of Page one. I assume to the Water Resources Investigation Bulletin of July 1981 in which there is a sketch of the dam showing the HWM at 1597.8 - including planks and concrete. You state Mr. Basler was notified by letter on November 12, 1981 there was to be a meeting to determine the HWM. This would be four months after the July Bulletin was issued, and showing the HWM at 1597.8. To add to my confusion the HWM metal marker near the dam shows 1598.3 dated 4/20/82.

I disagree with your inference (Page 2) there would have been no problem if homes had not been located in our area. These homes and also productive crop lands were there for a long time before the flooding. The 12" addition made the difference of flooding or no flooding this year.

I am also confused in your recommendation that the Lake Brant Association instigate a change in the HWM when your department has the authority to make the changes. I am unclear where the Game and Fish Department and yours prevail.

Under the present proceedures of the Lake Brant Association I doubt if any changes could be made. As I said at the meeting I am not a member. I would like your reply to give me the date and by whom the authority to add the concrete was given to the association.

I want to thank you again for the time you gave us at Pierre and the follow up work. I await your reply to the above questions. Would you please send your reply to address shown above.

Very truly yours,
Jerome G. Erickson

SOUTH Dakota Department of
Water & Natural Resources

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

Water Rights Division
605 773-3352

December 17, 1984

Jerome G Erickson
8001 East Broadway #6015
Mesa AZ 85208

Dear Mr. Erickson:

Thank you for your letter regarding Brandt Lake. The report of investigation for the High WM (Ordinary High Water Mark) was dated July 1981. The report was not presented to the Water Management Board until December 2, 1981. The report includeda High WM recommendation for the public hearing. The High WM was not established until the December, 1981 meeting of the Water Management Board. The High WM was established at elevation 1598.3 feet msl. The maximum outlet elevation was set at 1597.8 feet msl.

The metal marker was installed on April 20, 1982 to provide information for the public on the 1598.3 High WM elevation.

We are responsible for seeing that the outlet elevation is not raised above the maximum outlet elevation of 1597.8 feet msl. The management of the lake below the outlet elevation is the responsibility of the S.D. Dept of Game, Fish and Parks. They hold a Vested Right No. 792-3 (filed August 1, 1961) which gives them the right to fill the lake to the outlet level. Maintenance of water levels at a lower level would be a management decision of Game, Fish and Parks.

I hope that I have answered your questions. If you have additional questions, please feel free to contact me.

Very truly yours,

JOHN HATCH, Chief Engineer
Water Rights Division

JH:ks

Brant Lake Improvement Association

Chester, South Dakota 57016

September 13, 1985

John Hatch, Chief Engineer
Department of Water & Natural Resources
Water Rights Division
Joe Foss Bldg.
Pierre, SD 57501

Dear Mr. Hatch:

I am writing you in regard to problems Brant Lake, North of Chester, South Dakota is having due to poor drainage during periods when the lake is above the ordinary high water mark.

The over-flow is approximately forty feet wide and it is felt that if it could be widened some the level of the lake would stabalize at normal levels sooner thereby decreasing the time that property is at the nercy of mother nature. During the past two years on incredible amount of damage has been done to shorelines on Brant Lake due to high water levels and high winds.

We of the Brant Lake Association are in the prcess of making application for relief at this time. During our inquiries of the Department of Game Fish & Parks, since they designed the over-flow structure, your name came to our attention for evaluation of the hydraulics involved and assesment of effects downstream should the over-flow be widened. We are requesting any assistance you could give us in this area as well as any advice you could give us on legal protacal we would need to follow if it is determined that the over-flow could be widened.

Thank you for your consideration.

Sincerely,

Bob Ellingson

BOB ELLINGSON
President
BE/lh

cc: Ron Koth
Dept of Game Fish & Parks

address:
3560 Gateway Blvd.
Sioux Falls, SD 57106

SOUTH Dakota Department of
Water & Natural Resources
Joe Foss Building
523 East Capitol
Pierre, South Dakota 57501-3181

Water Rights Division
605 773-3352

October 23, 1985

Bob Ellingson, President
Brant Lake Improvement Association
3560 Gateway Blvd.
Sioux Falls SD 57106

Dear Mr. Ellingson:

Enclosed is a partially completed application for a Flood Control Permit to widen the Brant Lake outlet. Please check over the application, fill in the telephone and address blanks and sign and notarize. We are starting the hydrologic analysis that was discussed October 8, 1985.

Please complete the enclosed application and return with the required $50.00 application fee. We will not consider the application complete until we have completed our hydrologic analysis. When we have a draft of the analysis report we will provide a copy for your review and schedule a meeting to discuss the results and proposed conclusions before finalizing the report.

Let me know, if you have any questions.

Very truly yours,

John Hatch

JOHN HATCH, Chief Engineer
Water Rights Division

JH:ks

enclosure

Water Rights Division - DWNR File No._____

Conversation or File Documentation

NAME OF PERSON OR FILE: Clem Gisi

ADDRESS: Route 1, Box 72, Wentworth, SD 57075 COUNTY Lake

DATE: 7-22-86 TELEPHONE _____

RE: Brant Lake Outlet.

COMMENTS:

Mr. Gisi called and voiced his objection to widening the outlet at Brant Lake. He is the farmer who owns the property directly below the outlet. He says it will flood more of his property below the outlet (property is pasture land). Says channel is too narrow to get the water directly back to it From the 40' extension. He prefers that they lower the existing portion and keep the "new" 40' at the higher elev., so the first flows go right down the channel.

He wondered why he wasn't notified of the county meetings, says he found out about it 3 weeks later. He wishes to be notified about what recommendations will be made, when the board meeting on it will be, etc.

I just told him that the downstream culvert capacities would have to be increased before the Flood Control Permit was approved, but that didn't seem to satisfy him too much. Insists more of his property will be flooded, etc.

File in Permit or other file as necessary. Use to document conversations and what the other party was told; why action or decision was made.

NAME: Tom Brandon

4/82

SOUTH Dakota Department of
Water & Natural Resources
Joe Foss Building
523 East Capitol
Pierre, South Dakota 57501-3181

Water Rights Division
605 773-3352

July 30, 1986

Madison Daily Leader
Box 348
Madison, South Dakota 57042

Dear Sir:

Enclosed is a Notice of Intent to Appropriate Water by **Brant Lake Improvement Assoc.**

Application No. **FC-4**, in **Lake** County, South Dakota. Please publish this notice once each week for two consecutive weeks in your paper. The first publication should be on, or before **August 6, 1986**.

The APPLICANT MUST VERIFY TO YOU THAT THE NOTICE IS TO BE PUBLISHED, before you make the first publication. The applicant is to pay the cost of publication and should make the necessary arrangements with you to pay these costs.

A copy of BOTH publications must be sent to the Water Rights Division. IMMEDIATELY after the FIRST publication, return a copy of the notice with the FIRST Publication Transmittal form on the bottom of this page. The first copy is needed to check the publication for errors so any corrections can be made before the second notice is published.

Please be sure the SECOND publication is returned with the enclosed Proof of Publication form. The permit application cannot be considered by the Water Management Board until proof of publication has been received.

Thank you for your assistance.

Sincerely,

RON DUVALL
Natural Resources Engineer

cc: applicant

* CUT HERE *

FIRST Publication Transmittal

No._____ Date_____

TO: Water Rights Division
Joe Foss Building
Pierre SD 57501-3181

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

NAME_____ NEWSPAPER_____

Equal Opportunity Employer

SOUTH Dakota Department of
Water & Natural Resources
Joe Foss Building
523 East Capitol
Pierre, South Dakota 57501-3181

Water Rights Division
605 773-3352

KJuly 30, 1986

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

Brant Lake Improvement Association
3560 Gateway #303
Sioux Falls, South Dakota 57106

Dear Sir;

Your Application No. FC-4 for a permit to appropriate water for

Flood Control use, has been examined and found to comply with the South Dakota Water Laws and applicable rules. A notice of your intent to appropriate water has been sent to the Publisher of the

Madison Daily Leader printed at Madison

South Dakota. For your information, a copy of this notice, the recommendation of the Chief Engineer and a report on the application are enclosed. Please review this notice prior to publication and notify this office, if you have any corrections or questions.

Be sure to contact the above newspaper to authorize publication of your notice of intent to appropriate water and to arrange for payment. Early contact with the paper can eliminate delays. The publisher has been instructed to publish your notice once each week for two consecutive weeks with the last publication to occur at least thirty days before the board meeting. We must receive Proof of Publication before the application can be considered by the Water Management Board.

Sincerely,

RON DUVALL
Natural Resources Engineer

enclosures

Form 8 - Proof of Publication - Notice of Intent to Appropriate Water

No. FC-4

PROOF OF PUBLICATION

STATE OF SOUTH DAKOTA)
) ss.
County Lake)

I, Deanna D. Bergheim hereby certify that the annexed printed copy of Notice of Intent to Appropriate Water was taken from the Madison Daily Leader

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

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

Wednesday, August 6th

Wednesday, August 13th

Deanna D. Bergheim
(Signature)

Secretary
(Title)

Aug. 13th, 1986
(Date Signed)

Cost of Printing: 38.26

83 Lines @ .2561 80% after first publication.

WNR-808-7/79
Proof of Publication

NOTICE OF HEARING ON APPLICATION NO. FC-4 FOR A FLOOD CONTROL PERMIT

Notice is hereby given that the Brant Lake Improvement Association whose mailing address is 3560 Gateway No. 303, Sioux Falls, South Dakota has made an application for a Flood Control Permit. This application proposes to widen the Brant Lake outlet by 40 feet with the top elevation of the 40 foot extension (1596.72 feet mean sea level) being 12 inches lower than the top elevation of the existing outlet structure (1597.72 feet mean sea level). The 40 foot extension is to be a control structure fitted with removable planks to maintain the lake level between the top elevations of the existing outlet and the proposed 40 foot extension. The purpose of the proposed project is to reduce flooding along the lake shoreline.

Pursuant to SDCL 46-2A-2 the Chief Engineer of the Water Rights Division recommends APPROVAL of Application No. FC-4 because the project 1) will reduce damage from flooding or erosion around the lake, 2) will not increase the likelihood or severity of flood damages downstream, 3) will not endanger human life or property, and 4) will not impair existing water rights.

This application will be considered by the Water Management Board at Room 216, Joe Foss Building, 523 E. Capitol, Pierre, SD, September 3, 1986 at 2:15 p.m.

The recommendation of the Chief Engineer is not final or binding upon the Board and the Board is authorized to 1) approve, 2) approve with qualifications, 3) defer, or 4) deny this application after it reaches a conclusion based upon facts presented at the public hearing. Any interested person who may be affected by a Board decision and who intends to participate in the hearing before the Board and present evidence or cross-examine witnesses according to SDCL 1-26, must file a written petition with BOTH the applicant and the Chief Engineer by August 22, 1986. The petition may be informal, but it must include a statement describing the petitioners interest in the application, the reasons for the petitioner's opposition to on support of the application, and the signature and mailing address of the petitioner or his legal counsel if legal counsel is obtained. The applicant need not file a petition.

This application is made pursuant to the provisions of SDCL 46-1-1 thru 46-1-9, 46-1-12 thur 46-1-15; 46-2-3.1, 46-2-9, 46-2-11, 46-2-13, 46-2-17' 46-2A-1 thru 46-2A-12, 46-2A-14, 46-2A-15; 46-5-1 thru 46-5-11, 46-5-13 thru 46-5-15, 46-5-24, 46-5-25, 46-5-30.2, 46-5-30.4, 46-5-31; 46-5-47 and Board Rules ARSD 74:02:01:01 thru 74:02:01:15.

This hearing is an adversary proceeding. The applicant or any person, after filing a petition, has the right to be present or to be represented by a lawyer. These and other due process rights will be forfeited if they are not exercised. Decisions of the Board may be appealed to the Circuit Court and the State Supreme Court as provided by law.

Any person wishing a copy of the Chief Engineer's recommendation, further information on this application or to assure access to the hearing by the handicapped can contact the Water Rights Division, DWNR, Joe Foss Bldg., Pierre, SD (605)773-3352) for assistance prior to the hearing date. The time of the hearing will be automatically extended for at least twenty days upon written request of the applicant or any person who has filed a petition to oppose or support the application. The request for extension must be filed with the Chief Engineer by August 22, 1986.

Brant Lake Improvement Association

Chester, South Dakota 57016

July 30, 1986

Department of Water and
Natural Resources
Joe Foss Building
523 E. Capitol
Pierre, SD 57501

Gentlemen:

The shoreline and banks of the South shore, West-Northwest and Northeast shore of Brant Lake are eroded and collapsing resulting in heavy siltation of the lake. Due to the erosion sever damage is also being done to private property.

The Department of Water & Natural Resources has estimates to repair shoreline damage at $1,108,000 dollars.

Brant Lake is going to continue to recieve damage both to the shoreline and ecologically if some preventative projects are not accomplished before and during the acutal repair of the shoreline.

The outlet at Brant Lake needs to be widened to allow a larger volumn of water to passs out of the lake when the water is above the high water mark. The enclosed outlet widening project proposal is submitted for approval.

Due to the high water level of Brant Lake at the present time, it is imperative that this project be completed prior to this up-coming Winter.

Sincerely,

Bob Ellingson

BOB ELLINGSON, President
BE/lh
enc:

cc:

Brant Lake Improvement Association

Chester, South Dakota 57016

August 5, 1986

Mr. John Hatch,
Department of Water & Natural Resources
Joe Foss Building
523 E. Capital
Pierre, SD 57501

Dear John:

With regard to the enclosed recomendations for the operation and control of the Brant Lake outlet, please acknowledge your confirmation of the proposal at your earliest convenience.

Thank you for your consideration.

Sincerely,

Jim Myers, Vice President
JM/lh
enc:

cc: G. W. Chalcraft, Chairman, Lake County Commission
cc: Floyd Gaarder, Department of Game, Fish & Parks
cc: Don Brown, Chairman Chester Township Board

Brant Lake Improvement Association

Chester, South Dakota 57016

RECOMMENDED OPERATION AND CONTROL OF

BRANT LAKE GATED OUTLET

1. It is recommended that under rising water flow conditions, the gates will be opened when the elevation of Brant Lake reaches 1597.8 (0.1ft above spillway elevation).

2. Under conditions of receding water levels, the gates will be closed when the lake level recedes to elevation 1597.6 (0.1 feet below existing spillway elevation) and remain closed until rising water conditions exist as stated aboved.

3. With confirmation from the state, county and township units of government listed below, the Brant Lake Association will accept the responsibility of operating the outlet as indicated above or as recommended by the units of government.

Lake County Commission
Chester Township Board
Department of Game, Fish & Parks
Department of Water & Natural Resources

CONSTRUCTION SPEC.

BRANT LAKE SP-WAY

CONSTRUCTION SPECIFICATION

SD-2 CLEARING AND GRUBBING

2.1 SCOPE

The work shall consist of the clearing and grubbing of designated areas by removal and disposal of trees, snags, logs, stumps, shrubs, and rubbish.

2.2 REMOVAL

Unless otherwise specified all material to be cleared and grubbed shall be removed to a depth of 1 foot below the embankment foundation after stripping and 2 feet below a concrete structure subgrade. Where designated areas include borrow areas, grubbing will be required to remove all objectional material encountered. Limits of areas to be cleared and grubbed will be marked by means of flags, stakes, tree markings or other suitable methods. Care shall be taken to protect from damage other trees and shrubs not marked for removal and/or outside the limits of areas to be cleared and grubbed.

2.3 DISPOSAL

Where brush piles for wildlife are not specified on the drawings, cleared and grubbed materials shall be disposed of by burning or burying at locations selected by the contractor and approved by the technician. Materials to be buried shall be placed at least 2 feet below the surrounding ground line and have a minimum 2 feet of cover with the finished surface graded to drain. Any burning operations shall be subject to all public laws governing such operations.

CONSTRUCTION INSPECTION

SD-3 STRUCTURE REMOVAL

3.1 SCOPE

The work shall consist of the removal, salvage, and disposal of man-made structures (including buried structures and fences).

3.2 REMOVAL

Structures to be removed shall be removed to the extent and depth shown on the drawings or as designated by the technician.

3.3 SALVAGE

Structures designated to be salvaged shall be carefully removed, disassembled (if designated for disassembly) and neatly placed in the storage area shown on the drawings or other areas selected by the contractor and approved by the technician. All salvaged materials shall remain the property of the owner unless otherwise specified.

3.4 DISPOSAL OF REFUSE AND UNSALVAGED MATERIALS

Refuse and unsalvaged materials shall be disposed of by burning and/or burying at locations shown on the drawings or as approved by the technician. Materials to be buried shall be placed at least 2 feet below the surrounding ground line and have a minimum of 2 feet of cover with the finished surface graded to drain. Burning operations shall be subject to all public laws governing such operations.

CONSTRUCTION SPECIFICATION

SD-8 ROCK RIPRAP AND BEDDING

8.1 SCOPE

The work shall consist of furnishing and installing loose rock riprap and blankets, including filter layers or bedding as specified on the drawings.

8.2 MATERIAL QUALITY

a. Riprap Quality

Individual rock fragments shall be dense, hard, durable, and free from cracks, seams, and other defects conductive to accelerated weathering. The rock shall be angular to sub-rounded in shape. The bulk specific gravity (saturated) shall be not less than 2.5 determined by ASTM Method C 127. The least dimension of an individual rock fragment shall be not less than one third the greatest dimension of the fragment.

Rock that fails to meet the above requirements will be accepted only if similar rock from the same source has been demonstrated to be sound after 3 years of exposure to conditions similar to conditions where the riprap is to be placed.

b. Filter (Sand, Gravel) Quality

Aggregates shall be composed of clean, hard, durable mineral particles free from organic matter, clay balls, soft particles or other substances that would interfere with their free-draining properties.

Not more than 5 percent of the material may be crushed limestone and not more than 15 percent may be flat, elongated particles.

8.3 MATERIAL GRADATION

a. Riprap Grading

Except where shown otherwise on the plans, the rock shall conform to the following grading limits after placement.

Stone Size	% Finer
250 lb.	100%
50 lb.	30-50%
20 lb.	10-25%
1 lb.	0-5%

Sand and rock dust shall be less than 5 percent of the total weight of the riprap.

b. Filter Sand, Gravel Gradation

Unless otherwise specified on the drawings, the aggregates shall meet the following gradation requirements after placement.

Size	% Finer
3"	100%
1"	90-100%
#4	50- 85%
#50	10- 40%
#200	0- 5%

8.4 SUBGRADE PREPARATION

The subgrade surfaces on which the riprap or bedding course is to be placed shall be cut or filled and graded to the lines and grades shown on the drawings. When fill to subgrade lines is required, it shall consist of approved materials and shall conform to the requirements of the specified class of fill.

Riprap shall not be placed until the foundation preparation is completed and the subgrade surfaces have been inspected and approved by the technician.

8.5 EQUIPMENT-PLACED ROCK RIPRAP

The rock shall be placed by equipment on the surfaces and to the depths specified. The riprap shall be constructed to the full course thickness in one operation and in such a manner as to avoid serious displacement of the underlying materials. The rock shall be delivered and placed in a manner that will insure that the riprap in place shall be reasonably homogeneous with the larger rock uniformly distributed and firmly in contact one to another with the smaller rocks and spalls filling the voids between the larger rocks.

Riprap shall be placed in a manner to prevent damage to structures. Hand placing will be required to the extent necessary to prevent damage to the permanent works.

8.6 HAND-PLACED RIPRAP

The rock shall be placed by hand on the surfaces and to the depths specified. It shall be securely bedded with the larger rocks firmly in contact one to another. Spaces between the larger rocks shall be filled with smaller rocks and spalls. Smaller rocks shall not be grouped as a substitute for larger rock. Flat slab rock shall be laid on edge.

8.7 FILTER LAYERS OR BEDDING

When the drawings specify filter layers or bedding beneath riprap, the filter or bedding material shall be spread uniformly on the prepared subgrade surfaces to the depth specified. Compaction of filter layers or bedding will not be required, but the surface of such layers shall be finished reasonably free of mounds, dips, or windrows.

CONSTRUCTION SPECIFICATION

SD-12B CONCRETE FOR MINOR STRUCTURES (FOR STRUCTURES UP TO 10 C.Y.)

12B.1 SCOPE

The work shall consist of proportioning, forming, placing, finishing, and curing portland cement concrete.

Acceptance:

The acceptance or rejection of concrete made under this specification will depend upon adherence to the procedures set forth herein, and the appearance of the finished structure.

12B.2 MATERIALS

Portland Cement shall be Type II or Type IIA Portland Cement. Cement that is partially hydrated or otherwise damaged shall not be used.

Fine Aggregate is defined as all material which will pass a ¼-inch screen. Fine aggregate shall compose between 35 and 45 percent of the total aggregate and shall not contain more than 1 percent clay lumps or more than 4 percent finer than a No. 200 sieve. Coal in fine aggregate shall not exceed ½ of 1 percent.

Coarse Aggregate is defined as all material larger than ¼ inch. Maximum size aggregate shall not exceed:

1 inch - Concrete thickness of 4 inches or less
1½ inch - Concrete thickness of 4 inches or more

Coarse aggregate shall compose between 55 and 65 percent of total aggregate and shall not contain more than ½ of 1 percent of clay lumps or more than 1 percent of material finer than No. 200 sieve. Coal shall not exceed one percent.

Mixed fine and coarse aggregate or pit-run aggregate may be used provided the requirements stated above are met.

Water shall be clean and free of harmfull chemicals (suitable for drinking).

CONSTRUCTION SPECIFICATION

SD-12B CONCRETE FOR MINOR STRUCTURES
(FOR STRUCTURES UP TO 10 C.Y.)

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1 inch - Concrete thickness of 4 inches or less
1½ inch - Concrete thickness of 4 inches or more

Coarse aggregate shall compose between 55 and 65 percent of total aggregate and shall not contain more than ¼ of 1 percent of clay lumps or more than 1 percent of material finer than No. 200 sieve. Coal shall not exceed one percent.

Mixed fine and coarse aggregate or pit-run aggregate may be used provided the requirements stated above are met.

Water shall be clean and free of harmfull chemicals (suitable for drinking).

All forms shall be true to line and grade, mortar tight, and rigid enough to prevent bulging or displacement. Tolerances will be close enough to assure that the structure appears and performs well.

All forms shall be removed from the concrete. Forming shall not be embedded in the concrete.

12B.5 PLACING CONCRETE

Concrete shall be placed in final position within one and one-half hours after mixing with cement.

Concrete shall be consolidated by hand spading and tamping or by mechanical vibration.

All concrete placed on earth shall be placed on clean damp surface, free of frost, ice, or running water. Concrete shall not be dropped more than 5 feet vertically unless suitable equipment is used to prevent segregation.

Uniformed surfaces (excluding slip form concrete) exposed in the completed work shall have a wood float finish. Exposed concrete edges shall be chamfered or finished with molding tools.

Concrete shall be placed at air temperatures between 40°F. and 80°F. unless special measures are taken to protect the concrete. Concrete shall be protected from freezing for 7 days after placement.

12B.6 CURING CONCRETE

All concrete shall be cured by keeping all exposed surfaces wet for 7 days or by applying a spray type curing compound to exposed concrete surfaces immediately after the free water has disappeared after pouring.

12B.7 DEFECTIVE CONCRETE

Honey combed areas and other voids in concrete will be promptly repaired with mortar patching immediately upon discovery.

Concrete subjected to damage and/or other violations of this specification will be rejected.

CONSTRUCTION SPECIFICATION

SD-13 STEEL REINFORCEMENT

13.1 SCOPE

The work shall consist of furnishing and placing steel reinforcement for reinforced concrete.

13.2 MATERIALS

All reinforcement shall be free from all flaky rust, oil, grease, paint, mill scale, or other foreign substance.

Steel bar reinforcement shall be deformed billet steel conforming to either ASTM specification A 15 Intermediate Grade or A 615 Grade 40.

Welded Steel wire fabric reinforcement shall conform to the requirements of ASTM Specification A 185.

13.3 CUTTING AND BENDING

Reinforcing bars may be mill or field cut or bent. All bends shall be made without heating and in accordance with standard practices. (See American Concrete Institute Standard 315). Bars with kinks, cracks, or improper bends will be rejected.

13.4 SPLICING BAR REINFORCEMENT

Unless otherwise specified on the drawings, splices of reinforcing bars shall provide an overlap equal to at least 30 times the diameter of the smaller bar in the splice but not less than 12 inches.

Welded wire fabric shall be overlapped one full mesh (not counting cut portions) and tied as necessary to keep the fabric in place during pouring.

13.5 PLACING

All reinforcement shall be placed as shown on the drawings, and shall be supported and tied in a manner assuring that it will not be moved during concrete placement. Tack welding of bars will not be allowed. Dimensions shown on the plans, indicating concrete cover, are the clear distance from the concrete surface to the reinforcing steel.

CONSTRUCTION SPECIFICATION

SD-28 SEEDING

28.1 SCOPE

The work shall consist of furnishing all labor, equipment, and materials for seeding a permanent grass mixture on the areas shown on the drawings.

28.2 GENERAL

The seeding and related operations shall be performed at such times as designated below.

Dates: Soon as possible after Construction.

28.3 FERTILIZER

The fertilizer, where required, shall be a regular commercial fertilizer (including liquid form) meeting the requirements of the applicable state laws, and shall be in such physical condition to insure uniform application over the area to be fertilized. Rates of application per acre shall be as specified below. Organic fertilizers may be used when specifically authorized.

Types and Rates: _____

28.4 SEED

The seed shall be delivered to the site in tagged and labeled bags to show the percentage of purity and germination. The seed shall have been tested within six months prior to the date of seeding and shall conform to the latest seed laws of the United States and of the state. Species, the source of production if native grasses are used, and rates of seeding shall be as specified below.

Species	Variety or Seed Source	Amount Per Acre (PLS) Lbs.	Total Lbs.
Smooth Bromegrass		13.0 = 0.1 Ac	1.3

28.5 PREPARATION OF SEEDBED

The entire area to be seeded shall be reasonably smooth and all washes and gullies shall be filled to conform to the desired cross section before actual seedbed preparation is begun. At this stage of the operation, the fertilizer, if required, shall be applied uniformly and incorporated into the top 3 inches of the soil with suitable tillage equipment. The contractor shall suspend operations when the soil is too wet or too dry.

28.6 SOWING THE SEED

Unless otherwise specified, the seeding operation shall be performed immediately after preparation of the seedbed. The seed shall be drilled or broadcast with approved types of equipment that will insure uniform distribution of the seed.

28.7 MULCHING

The required mulching shall be performed as soon as possible after seeding unless otherwise specified. The mulch shall be applied uniformly over the area. The type, rate, and methods of anchoring shall be as specified below.

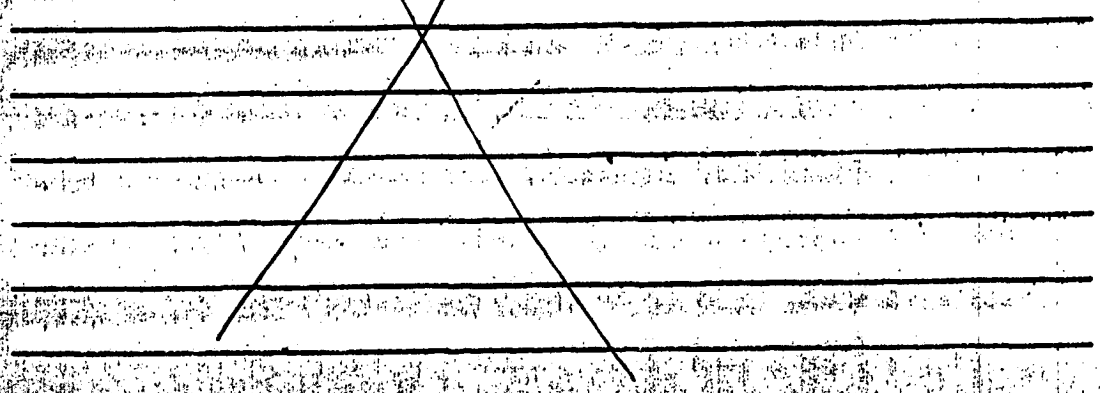


TABLE OF QUANTITIES & COST ESTIMATE

Project Brant Lake Outlet Str Cooperator

Conservation District County

Computations By: TBM Date: 7-26-86

Computations Checked By: Date:

— Est Only —

Item No.	Item	Unit	Quantity	Unit Cost	Total Cost
	Mobilization 5%	Lump Amt			360
	Excavation	C.Y	339	6.50	2,203
	Obstruction Removal + Clearing	Lump	Amt	-	250.00
	Filter Gravel	C.Y	24	26.00	624
	Rock Riprap	C.Y	49	24.00	1,176
	Concrete (Wier + Wing Wall)	C.Y	4.5	250.00	1,125
	Steel (Reinforcement Bars)	lbs	196	1.00	196
	Flap Gates (1' by 10')	NO	4	108.00	432
	Suport Post (4" Bars 3" by 3"	NO	5	22.00	110
				~~%~~	6476

South Dakota
Department of Game, Fish and Parks

Division of Wildlife
Sigurd Anderson Building
445 East Capitol
Pierre, South Dakota 57501-3185
(605) 773-3381

August 15, 1986

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

Dear Mr. Hatch:

In response to the Notice of Hearing on Application No. FC-4 for a flood control permit by the Brandt Lake Improvement Association, the S.D. Department of Game, Fish and Parks intends to participate in the public hearing scheduled for September 3, 1986.

The department is an interested party to this proceeding by way of a vested water right to elevation 1597.8 on Brandt Lake and because of an intrinsic interest in the maintenance of the established ordinary high water mark on a public body of water.

Thank you for the opportunity to participate in the forthcoming proceeding.

Sincerely,

James Salyer
Director

JS/RK/ld

cc: Brandt Lake Improvement Association
Ron Koth, GF&P
Pete Jacobsen, GF&P

SOUTH Dakota Department of
Water & Natural Resources
Joe Foss Building
523 East Capitol
Pierre, South Dakota 57501-3181

August 20, 1986 FC-4

Bob Ellingson
Brant Lake Improvement Association
3560 Gateway #303
Sioux Falls SD 57106

Dear Mr. Ellingson:

Enclosed are copies of several letters received pertaining to the Flood Control Permit Application for Brant Lake Improvement Association. We are sending the letters in the event you did not receive copies.

Very truly yours,

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

JH:ks

enclosures

Madison, South Dakota 57042
August 18, 1986

Brant Lake Improvement Association
3560 Gateway No. 303,
Sioux Falls, South Dakota 57106

Water Management Board
Room 216, Joe Foss Building
523 E Capitol, Pierre, South Dakota 57501

Sirs;

I wish to attend the hearing on the Application No. FC-4 for a flood control permit requested by the Lake Brant Association. This hearing to be held on September 3, 1986 at Pierre, South Dakota.

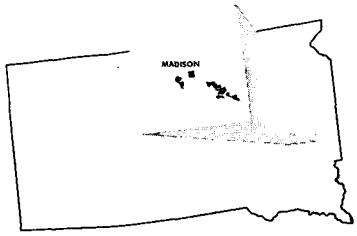
I have an interest in this problem since I lease land from Norman Basler and am concerned about the water level of Lake Brant, and the damage it has done in the past 2 to 3 years.

I am also concerned with the erosion of the banks surrounding the lake. The erosion has become a very serious problem, and will continue to ruin the lake unless something is done.

Sincerely,

James H. Brookshire

James H. Brookshire N-15
P. O. Box 470
Madison, South Dakota 57042
Ph: 605-256-3983



Office of State's Attorney

Lake County, South Dakota

P.O. Box 45 Madison, SD 57042

Phone 605-256-6678

Richard D. Casey
State's Attorney

Wilson Kleibacker
Deputy State's Attorney

April 22, 1987

Mr. John Hatch
Chief Engineer
Water Rights Division
Department of Water and Natural Resources
Joe Foss Building
523 East Capitol
Pierre, SD 57501-3181

Dear Mr. Hatch:

Re: Flood Control Application #FC-4, Brandt Lake Improvement Association

Please be advised that the Lake County Commissioners have been contacted by a group of citizens who claim that they are directly interested in and affected by the above application. This group is very concerned that if Lake County goes ahead and installs the larger culverts pursuant to the December 30, 1986 Findings of Fact, Conclusions of Law and Final Decision, these people will suffer significant damages.

Enclosed is a list of those persons who were present at the Lake County Commission meeting on April 21, 1987, together with their mailing addresses. With the exception of Norman Basler, none of these people apparently received any notice of the Water Management Board's hearing on the above application. To this point in time, it has always been the Commissioners' understanding that all interested and affected parties to this application had received notice of the Board's proceedings, and that due process requirements had been satisfied. It now appears to the County Commissioners that due process was not afforded to all interested persons.

The Lake County Commissioners have previously authorized the necessary construction pursuant to the December 30, 1986 final decision of the Board. However, you are hereby advised that the Lake County Commissioners have now decided to delay such construction until they are satisfied that due process has been afforded to all interested parties, even if to do so would

necessitate a rehearing by the Water Management Board on the application. The County Commissioners have further directed that I contact you and request a response with regard to this matter as soon as possible so that the County Commission can act accordingly.

Thank you for your attention to this matter, and I shall look forward to hearing from you in the next few days.

Yours very truly,

LAMMERS, LAMMERS, KLEIBACKER & CASEY

By: Richard D. Casey

RDC/ska

enclosure

cc: County Commissioners
Leonard Klamm
Dean Pearson

57018

Tom Park RR 1 Box 99AA Colton S.D.

Greg Hauglid RR2 Box 131 Dell Rapids S.D 57022

Lester Anderson Chester S Dak Box 1

Doris Mousel Rt 1 Box 27 Colton S.D 57018

RNINAGE DEAL. Charles C. Mahaffy P.O. BOX 88 Chester S.D. 57016

John L. Neuman Box 24 RR1 Chester S.D. 57016

Rodney J Park Box 23 A RR1 Chester S.Dak 57016

HENRY PARK JR Box 98 RR1 COLTON S.D. 57016

Alton Tokheim RR2 Box 107A Dell Rapids S.D.

Leonard Klamm RR1 Box 101 Colton S.Dak 57018

April 21, 1987 Water Drainage Concerns from Brant Lake:

PAUL SCHULTZ PO Box 267 MADISON, S.D. 57042
William L Anderson Box 77 Chester SD
Mike Kniens Dell Rapids Rt 2 Box 138
HAROLD CLARK [illegible]
Norman Gregerson R 2 Box 143 Dell Rapids SD
Kenneth VanZeeuwen R 2 Chester S.D.
Eugene HOFFMAN RR#2 Box 94 Dell Rapids S.D.
DeLeigh Jensen R.R. 2 Box 73 Dell Rapids, S.D.
Dennis Jensen R.R. 2 Box 77 Dell Rapids, S.D.
Alice Andersen Chester S Dak R.R.
Rosemary Hauglid RR 2 Box 135 Dell Rapids SD
Norman A. Basler Wentworth, S. Dak R Route 1 Box 63, 57075

South Dakota Department of
Water & Natural Resources
Joe Foss Building
523 East Capitol
Pierre, South Dakota 57501-3181

April 30, 1987

Richard D. Casey
Lake County State's Attorney
PO Box 45
Madison SD 57042

Dear Mr. Casey:

I am writing in response to your letter dated April 22, 1987 concerning the notice given for Flood Control Permit Application No. FC-4, Brant Lake Improvement Association. SDCL 46-2A-4 requires that notice of an application for a flood control permit be published once a week for two successive weeks in one official newspaper in the county where the project will be located. The second publication must be at least 20 days before a Water Management Board Meeting. The notice for FC-4 was published in the Madison Daily Leader August 6 and 13, 1986. See attached proof of publication.

Anyone who wanted to participate in the hearing before the Water Management Board was required to file a written petition by August 22, 1986. Any letter or note is considered to be a petition. Several letters both in favor of and against Application FC-4 were received. For example, Larry Alverson, President Chester Township Board; Clem Gisi, downstream landowner and Norman and Tim Basler objected to FC-4.

We believe that proper and adequate notice was given. Personal notice is not required. The Chester Township Board was aware of the application and hearing. The Water Management Board held the hearing September 3, 1986 and adopted findings of fact, conclusions of law and a final decision December 10, 1986. The notice of the adoption of the final decision was sent to all parties of record January 5, 1987. No one appealed the decision within the 30 days allowed by Chapter 1-26 for appeal of a Board decision.

The increased culvert or bridge capacities are required to prevent what the persons meeting with the Lake County Commissioners were concerned with - additional flooding. Even though water will outflow at a faster rate from Brant Lake, the increased culvert and bridge capacities will reduce downstream flooding and reduce the retention time in existing flood plain

areas. Our analysis shows that downstream landowners will have the same or in most cases, less flooding with the new increased culvert and bridge capacities than they may have experienced in recent high flow years. The Water Management Board can not approve flood control permits if downstream flooding will be increased by a project.

Please let me know if I can answer additional questions.

Very truly yours,

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

cc: Lake County Commissioners, PO Box 308, Madison SD 57042
Leonard Klamm, RR 1, Box 101, Colton SD 57018
Dean Pearson, RR 1, Box 46C, Chester SD 57016
Jim Meyers, 909 East 12th, Mitchell SD 57301

South Dakota Department of
Water & Natural Resources
Joe Foss Building
523 East Capitol
Pierre, South Dakota 57501-3181

June 3, 1987

Wayne Langner, Chairman
Lake County Commissioner
County Court House
East Center Street
Madison, SD 57042

Dear Mr. Langner:

I am writing in regard to repair work to be conducted on the small dike adjacent to Skunk Creek located south of Chester between the east-west paved road and the railroad track in the NW1/4, NW1/4 Sec. 23, T105N, R51W.

We recommend that the minimum height of the dike be 1589.5 ft. mean sea level (msl). This will prevent the dike from being overtopped by flood waters from the type of rainfall-runoff event (100 year, 24 hour storm) used as the design storm for Brant Lake Flood Control Permit FC-4. The railroad bridge has been surveyed by Division Engineers. The top of the west rail at the south end of the bridge has an elevation of 1592.2 ft. msl. This may aid you in your survey work. We also recommend that the dike have a 6 foot top width and 2:1 side slopes (2 horizontal feet for every vertical foot).

If we can be of further assistance please let us know.

Very truly yours,

John Hatch

John Hatch, Chief Engineer
Water Rights Division
(605) 773-3352

cc: Jim Meyers, Vice President
Brant Lake Improvement Association

Brant Lake Improvement Association

Chester, South Dakota 57016

7-2-86

John Hatch, Chief Engineer
Water Rights Division
SD Department of Water & Natural Resources
Joe Foss Building--523 E. Capitol
Pierre, SD 57501

Dear Mr. Hatch:

Thank you for presenting your findings concerning Brant Lake during our June 24th meeting with the Lake County Commissioners.

I believe it was understood that the Brant Lake Improvement Association agreed to ask for a change addendum to our original Flood Control Application dated November 4, 1985. At a Brant Lake Association Directors' meeting, held June 29, 1986, it was unanimously approved that our original request be amended to include the following:

> that the outlet structure of Brant Lake should be widened not in excess of 40 feet, and that the top elevation of the 40-foot extension be placed 12 inches below the existing outlet's top elevation.

This letter will act as an addendum to the original application.

Thank you.

Sincerely,

Robert Ellingson
President

RE:rh

RECOMMENDATION OF CHIEF ENGINEER FOR FLOOD CONTROL PERMIT APPLICATION NO. FC-4

Pursuant to SDCL 46-2A-2, the following is the recommendation of the Chief Engineer, Water Rights Division, Department of Water and Natural Resources concerning Flood Control Permit Application No. FC-4, Brant Lake Improvement Association, 3560 Gateway No. 303, Sioux Falls SD.

The Chief Engineer is recommending APPROVAL of Flood Control Application No. FC-4 because 1) Project will reduce damage from flooding or erosion around the lake, 2) Project will not increase the likelihood or severity of flood damages downstream, 3) Project will not endanger human life or property, and 4) Project will not impair existing water rights with the following qualifications:

1. That downstream restrictions to flow in the Skunk Creek channel between the Brant Lake Outlet and the east side of the road on the Sections 23 and 24 section line, T105N, R51W be removed and/or road culvert capacities be increased where necessary to pass at least an additional 250 cubic feet per second (cfs) or a total of 900 cfs. Any "dry wash" or lowered roadway installed in lieu of additional culvert capacity shall be maintained to provide the design flow capacity.

2. That plank placement and removal from the outlet extension will be under the direction of the chief engineer in accordance with an established operating plan (see Note).

3. That the outlet construction, future outlet maintenance and repair, and to supply the planks will be the responsibility of the Brant Lake Improvement Association.

4. That the ordinary high water mark (High WM) elevation 1598.3 ft. msl. may not be affected by this Flood Control Permit and that the Board may review this permit if it appears that the High WM is being affected or a new High WM is being formed above or below the established High WM.

Note: The Lake County Commission has agreed to have its employees place or remove the planks, but only at the direction of the chief engineer or in accordance with the operating plan.

See the attached report for additional information.

JOHN HATCH, Chief Engineer
July 30, 1986

REPORT ON PERMIT APPLICATION NO. FC4
BRANT LAKE IMPROVEMENT ASSOCIATION
JULY 16,1986

Flood Control Permit Application No. FC-4 by the Brant Lake Improvement Association of Sioux Falls, SD, is for a flood control project on Brant Lake located in Lake County approximately 10 miles southeast of Madison. The application proposes to widen the present Brant Lake outlet structure 40 feet. The outlet is located in the N1/2 NW1/4, Sec.9, T105N, R51W. The top elevation of the 40 foot extension is proposed to be 12 inches lower than the top elevation (1597.7 feet mean sea level) of the existing outlet structure. The 40 foot extension is to be a control structure fitted with removable planks, which will maintain the water level at the original outlet elevation when the planks are in place.

Discussion

An investigation was conducted to determine the consequences of enlarging the present outlet of Brant Lake by the amount noted in the application (other outlet configurations were also studied for comparison purposes). The study was a two part investigation:

1. The hydrologic properties of the Brant Lake drainage area Water Rights Division, 1981) (Shultz & Driessen, 1973) were used to estimate the maximum lake elevations and outlet discharges that would occur during a specific size rainstorm, in this case a 100-year storm.
2. Maximum flows through downstream constrictions (primarily culverts under section line roads) were calculated to determine the capability of these constrictions to pass the maximum discharges from the outlet under the 100-year storm.

A. Hydrologic Analysis

According to the U.S. Weather Bureau, a 24 hour rainfall of approximately 5.8 inches has a 1% chance of occurring in any given year in the Brant Lake region, thus the "100-year storm" (Kent, 1971). This size storm (5.8 inches of rain in 24 hours) was simulated on the Brant Lake drainage area, routed through the lake, and discharged from it through the present outlet as well as the proposed expanded outlet (Koontz, 1978).

The computer simulation of this rainfall-runoff event was conducted under the following assumptions:

1. Because Brant Lake receives runoff from Lake Herman and Lake Madison watersheds when these lakes overflow their outlets, an

inflow from them was added to the storm runoff. The outlet from Madison to Brant is capable of adding approximately 625 cubic feet per second (cfs) to Brant Lake. This amount was assumed to flow into Brant Lake for 2 weeks.

2. Flows into and out of Brant Lake were not considered to be impeded in any way, thus backwater effects were not included.
3. No specific groundwater interchange with the lake was included, however; an initial "loss" of 0.3 inch and an infiltration rate of 0.05 inch/hour were assumed.
4. The Brant Lake water level was considered to be at the outlet elevation when the storm began.

Results of the hydrologic analysis are shown in Figures 1 & 2. Comparisons between only the present outlet configuration and the permit application design will be made.

Figure 1

1. Adding the extension to the outlet should reduce the lake level peak under this assumed storm by about 0.9 feet, from 2.8 feet above the outlet elevation to 1.9 feet above it. This difference could significantly reduce the severity of shoreline erosion during major rainfall events.
2. The expanded outlet would lower the lake level at a faster rate than is possible with the present outlet. This also would reduce the long term erosion effects by draining the lake to a lower elevation more quickly.

Figure 2

1. The change in the outlet size would cause an increase of 250 cfs in the maximum outlet discharge, from 650 cfs to 900 cfs. This would cause additional downstream flooding if culvert capacity is not increased to handle the greater discharges produced by a larger outlet.
2. Because the larger outlet would lower the lake level more quickly it would also reduce the volume of outflow at a faster rate than the present outlet.

B. Downstream Discharge Capacities

Maximum flows through the downstream constrictions were calculated by measuring the dimensions and elevations of culverts, weir structures and bridges, and then choosing a maximum allowable head (water elevation) in the constriction vicinity. The head values chosen to determine maximum flows were the lowest elevations of the road tops traversing the culverts and bridges, and the tops of the wingwalls on the weir structures.

The calculations are based on free flow through the culverts with no backwater build up or debris blockage of the culvert openings. Off channel flood storage which will affect the ability of the water

to reach these maximum head values is not considered. The results of this portion of the investigation are shown in Figure 3.

Figure 3

The graph indicates the maximum discharges expected from the outlet under present and proposed conditions for the 100-year storm. These values are compared to the calculated maximum flows through the downstream constrictions.

1. Variations in the ability of the downstream constrictions to pass flood flows without overtopping is evident. Discharge capabilities range from 1300 cfs down to 150 cfs.
2. A number of the constricted areas could not pass the maximum discharge from the present outlet under the 100-year storm and thus could not discharge the larger 100-year flood flow from the proposed expanded outlet.

Conclusions

1. Expanding the Brant Lake outlet 40 feet and lowering that expanded portion one foot would lower the maximum lake level reached during a storm or heavy runoff, and increase the rate of lake drainage after the lake has peaked, thus reducing the severity of shoreline erosion.

2. The change in the outlet size would cause an increase in maximum outlet discharge of about 250 cfs for the 100-year storm and cause increased downstream flooding, unless downstream road culvert capacities are increased.

3. The downstream culverts not capable of passing the 900 cfs peak discharge must increase discharge capacity by approximately 250 cfs to adequately control increased flood potential from the expanded outlet.

4. Placement and removal of the planks in the expanded portion of the outlet must be done so through specific authorization.

Tom Brandner
Natural Resources Engineer

References

Kent, Kenneth M., 1971, Estimating Runoff, South Dakota Engineering Field Manual for Conservation Practices: U.S. Dept. of Agriculture, Soil Conservation Service, 1046 p.

Koontz, Claron L., 1978, National Inspection of Dams Hydrologic Analysis Program: U.S. Army Corps of Engineers, 88 p.

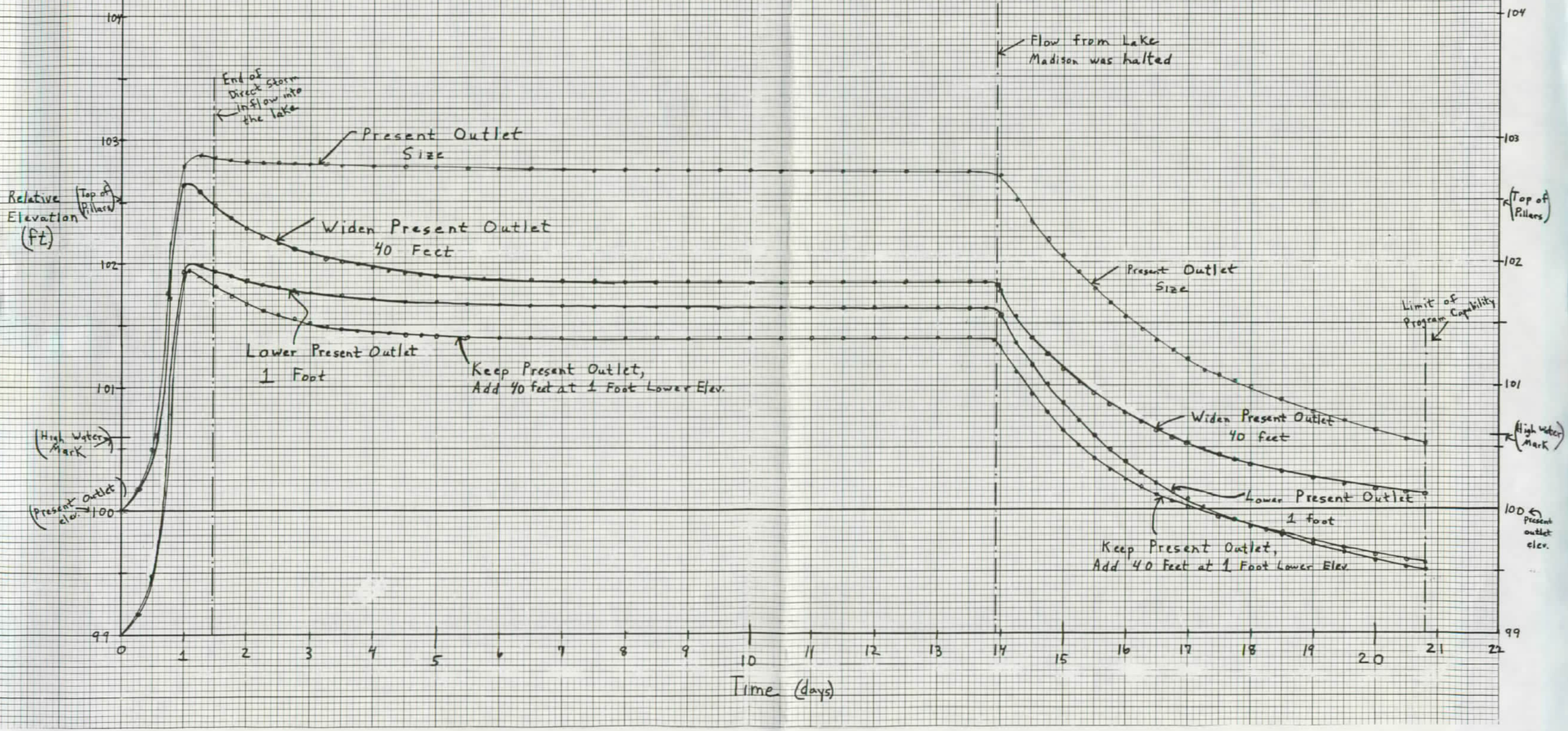
Schultz, Loren D. and Driessen, James L., Soil Survey of Lake County, South Dakota: U.S. Dept. of Agriculture, Soil Conservation Service, in cooperation with South Dakota Agricultural Experiment Station, 78 p. + maps.

Water Rights Division, 1981, Ordinary High Water Mark Investigation for Brant Lake: S.D. Dept. of Water and Natural Resources, Water Rights Division, 12 p.

(Figure 1)

BRANT LAKE 100 YEAR STORM

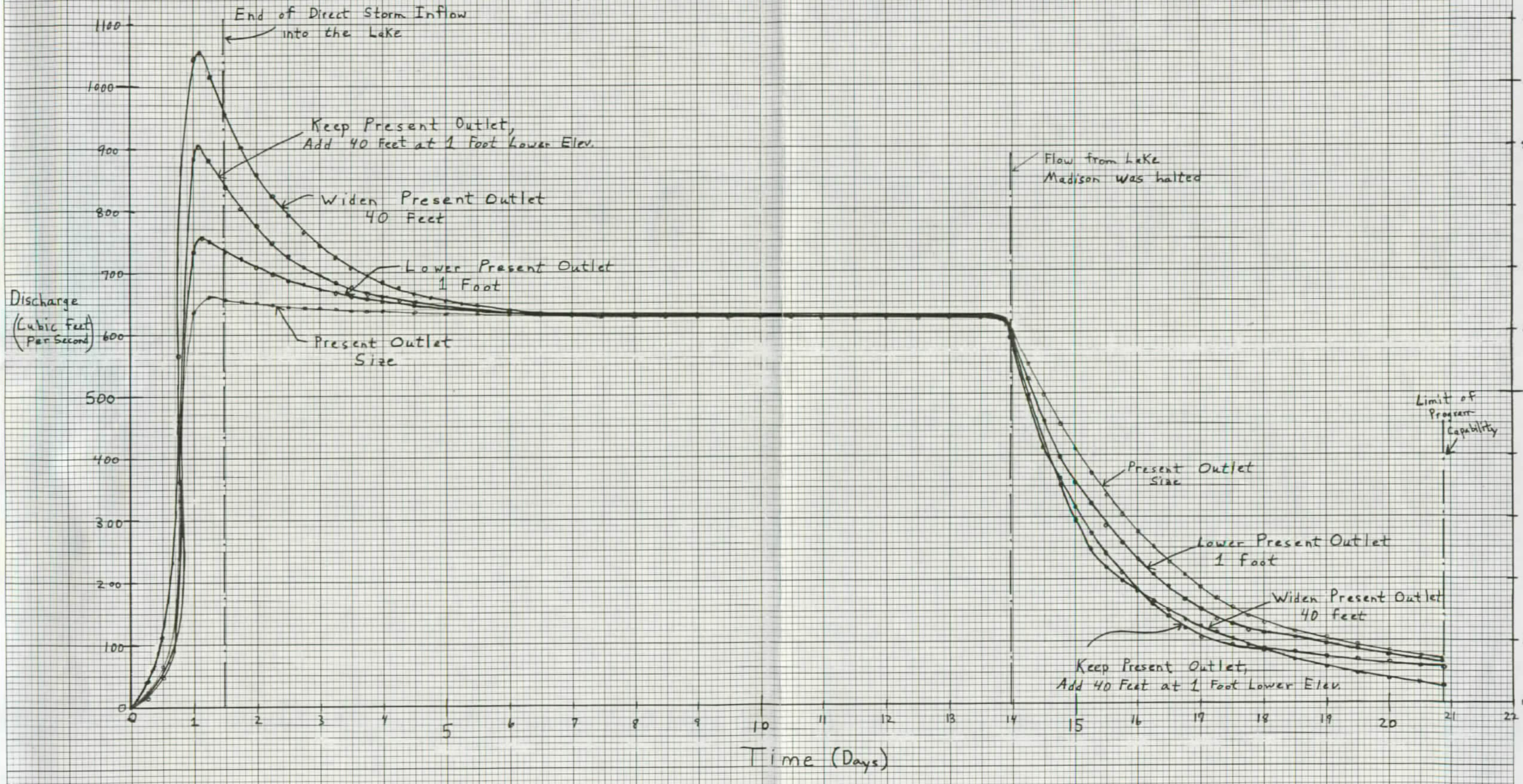
Lake Elevation vs Time (From Storm Onset)



BRANT LAKE 100 YEAR STORM

(Figure 2)

Outlet Discharge vs. Time (From Storm Onset)



Brant Lake

Maximum Constriction Discharge vs Distance from Outlet

(Figure 3)

Top of Wingwalls(2) = 2560 cfs

Present Brant Lake Outlet Structure (1)

Proposed Brant Lake Outlet Structure (2)

(Constriction Elevations for computing maximum flow are taken at the low point in the road surface above the culverts.)

E-W = east-west trending road

N-S = north-south trending road

E-W County Road with: elev. = 1601.9
3 pipe arch culverts
Spillway over road.

Top of Wingwalls(1) (elev. - 1601.6)

Top of Pillars(2) (elev. - 1600.2')

Fish trap elev. = 1599.6' weir structure

100-Year Storm Max. Discharge Proposed Outlet

100-Year Storm Max. Discharge Present Outlet

N-S Paved Rd. elev. = 1587.2
1 box culvert
1 round culvert

N-S County Road elev. - 1597.8
3 round culverts

E-W County Road elev. - 1595.2
2 pipe arch culverts

E-W Paved Road elev. - 1587.2'
1 box culvert

⊛ Train Bridge elev. - 1590.1'
Train Bridge

⊛ N-S County Road elev. - 1578.4'
3 Round Culverts

Top of Pillars (1) (elev. - 1600.2)

High WM(2) (elev. - 1598.3)

High WM(1) (elev. - 1599.3)

Outlet Base(1) (elev. - 1597.7) (width - 52.0')

Outlet Base(2) (elev - 1596.7) (width - 92.0')

Q (Cubic Feet per Second)

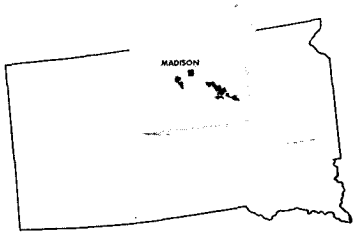
1600, 1500, 1400, 1300, 1200, 1100, 1000, 950, 800, 700, 600, 500, 400, 300, 200, 100, 0

1500, 1400, 1300, 1200, 1100, 1000, 900, 800, 700, 600, 500, 400, 300, 200, 100

0, .5, 1.0, 1.5, 2.0, 2.5, 3.0, 3.5, 4.0

Downstream Distance from Outlet (Miles)

⊛ - The two areas you are most concerned with



Office of State's Attorney

Lake County, South Dakota

P.O. Box 45 Madison, SD 57042

Phone 605-256-6678

Richard D. Casey
State's Attorney

Wilson Kleibacker
Deputy State's Attorney

August 14, 1986

Mr. John Hatch
Department of Water and Natural Resources
Joe Foss Building
523 E. Capitol
Pierre, South Dakota 57501

Dear John:

Re: Permit Application No. FC-4

Pursuant to our August 12, 1986 telephone conversation, please be advised that I have been asked by the Lake County Commissioners to write this letter with regard to your Recommendation for Flood Control Permit Application No. FC-4. The Lake County Commission takes no official position for or against your Recommendation dated July 30, 1986. However, the Lake County Commission denies that it has agreed to have its employees place or remove the planks at the direction of the Chief Engineer or in accordance with the operating plan. The Commission would prefer not to have its employees involved in that process if at all possible.

The Lake County Commission reserves the right to testify at the hearing scheduled for September 3, 1986, at 2:15 p.m. in Pierre.

Thank you very much for your attention to this matter.

Yours very truly,

Richard D. Casey
Lake County State's Attorney

RDC/dr

cc: Bill Chalcraft, Chairman
Lake County Board of Commissioners

August 20, 1986

Brandt Lake Improvement Assn.
3560 Gateway Blvd. No. 303
Sioux Falls, SD 57106

Dear Sir:

This is to inform you that I am very much in support of widening and lowering the Lake Brandt Outlet.

If the lake level had never been raised by that one foot illegally in the first place, we would not have had all the erosion and the threat of ice in the spring.

I rent a lot and have a mobile home at Basler's Resort Area and am disgusted with the high water.

Sincerely,

Clifford L. Rindels

Clifford L. Rindels
P.O. Box 8
Colman, SD 57017-0008

cc Chief Engineer
Water Management Board
Room 216
Joe Foss Building
523 E. Capitol
Pierre, SD 57501

WENTWORTH, SO. DAK.

AUGUST 21, 1986

WATER MANAGEMENT BOARD
ROOM 216, JOE FOSS BLDG.
523 E CAPITOL
PIERRE, SOUTH DAKOTA 57501

I AM OPPOSED TO LOWERING AN ADDIONAL 40 FEET OF SPILLWAY, AS IT WILL MAKE A NEW CHANNEL, CAUSING MORE FLOODING IN MY PASTURE.

TAKING OUT THE EXSISTING (OR LOWERING) SPILLWAY WOULD RUN IN THE ORIGINAL CHANNEL THAT NATURE INTENDED.

LAND OWNER,

Clement W Lisi
RR1 Box 72
WENTWORTH, SO. DAK 57075

Wentworth, S.D.
Aug. 17, 1986

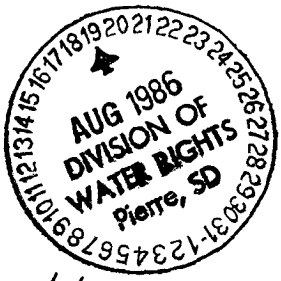
Water Management Board
Room 216, Joe Foss Bldg.
523 E. Capitol
Pierre, S.D. 57501

My interest in opposing this application is that the additional 40 ft. of spillway will not solve the flooding problem we have had in the past without the removal of one foot of concrete from the existing spillway, which caused the problem to start with and was permanent and (not removable).

Lisa D. Lasley
R.R. 1 Box 69
Wentworth S.D.
57075

Wentworth, SD.
Aug. 17, 1986

Water Management Board,
Room 216, Joe Foss Bldg.
523 E. Capitol,
Pierre, S.D. 57501



My interest in opposing the application submitted by the Brant Lake Imp. Assoc. is that the additional 40 ft. of spillway will not solve the flooding problem without the removal of <u>one foot</u> from the existing spillway, which caused the problem to start with and was made permanent (not removable) without permission. Thirty acres of my farm land is flooded, causing the loss of 3000 hay bales <u>each year</u> for four years.

Norman A Basler
RI, Box 69
Wentworth, So. Dak.
Zip 57075

J. G. JERRY ERICKSON
SINGER FURNITURE CO.
BOX 393 SIOUX FALLS, S.D. 57101
605-~~339-4502~~ 484-2167

August 18 1986

Re: Request to attend Meeting on 9-3-86 Regarding Application # F-C-4 on Brant Lake.

Attention: Chief Engineer
Water Management Board
Room 216 Joe Foss Bldg
523 East Capital
Pierre, So. Dak 57501

I am a tennant on a Leased Lot on Brant Lake owned by Norman Kasten and have a home on the lot I wish to present my thoughts on the granting of permission to extend the spillway 40' ft and propose a different solution at a greatly reduced cost

My property suffered substantial damage in 1984 caused by a questionable raising of spillway 12".

Sincerely Yours
Jerry G. Erickson
Ethel M. Erickson

Sirs,

I wish to express my opposition to application # FC-4 Concerning Brant Lake spillway. the widening of the spillway would cause undue hardships on (1) land owners along skunk creek because of higher & more water & (2) the tax payers in Lake Co. & Chester Twnshp. because of the cost of upgrading the 4 township & 2 County roads in the County. This is the reason for my written petition.

Larry Alverson
Pres. Chester Township Board
R+1 Box 55
Chester, S.D. 57016

SOUTH Dakota Department of
Water & Natural Resources
Joe Foss Building
523 East Capitol
Pierre, South Dakota 57501-3181

August 26, 1986

Bob Ellingson, President
Brant Lake Improvement Association
3560 Gateway #303
Sioux Falls SD 57106

Dear Mr. Ellingson:

I am considering revising my recommendation for the Brant Lake Association Flood Control Permit Application No. FC-4.

The Lake County Commissioners have advised (see copy of letter we sent to you) that the Commission will not participate in the placement or removal of planks at the Brant Lake Outlet. The Department of Game, Fish and Parks does not want to place or remove planks nor do they want planks in the outlet. Planks in the lake outlets always cause problems.

The Department of Game, Fish and Parks is reviewing whether lowering the entire width of the outlet 6 inches will cause any adverse impacts to the beneficial uses of the lake. I do not believe that lowering the outlet level will change the Ordinary High Water Mark (High WM) for Brant Lake. In fact, I have questioned if the existing outlet elevation will raise the High WM, rather than maintain it. I had reservations about the use of planks in the first place. I believe everyone concerned with the lake, will be more satisfied with a permanent structure 0.5 feet lower.

A hydrologic analysis of the downstream effects of lowering and permanently maintaining the outlet 6 inches below the existing outlet is being conducted which may result in a revised recommendation to the Water Management Board on your Flood Control Permit Application No. FC-4.

Very truly yours,

James A. Hutchison

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

cc: Richard D Casey, Lake Co States Attorney
James Salyer, Game, Fish & Parks
Ron Koth, Game, Fish & Parks
Jeff Stingley, Secretary, Game, Fish & Parks
Larry Alverson
Clement W. Gisi
Clifford L. Rindels
Tim D Basley
Norman A Basler
James H Brookshire
Jerome & Ethel Erickson

SOUTH Dakota Department of
Water & Natural Resources
Joe Foss Building
523 East Capitol
Pierre, South Dakota 57501-3181

September 9, 1986

NOTICE

TO: Persons Interested in Flood Control Application No. FC-4, Brant Lake Improvement Association

FROM: John Hatch, Chief Engineer
Water Rights Division
605 773-3352

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

The Water Management Board has directed Mr. Guhin, the Board's attorney to prepare proposed Findings of Fact, Conclusions of Law and a Final Decision regarding approval of Flood Control Application No. FC-4, Brant Lake Improvement Association. The Board will consider the proposed Findings, Conclusions and Final Decision at 11:00 am, December 10, 1986, Room 216, Joe Foss Building, Pierre SD.

The Board has requested that a copy of the proposed Findings, Conclusions and Final Decision be mailed to the Board and other interested parties by November 20, 1986. Any comments pertaining to the proposed Findings, Conclusions and Decision are to be mailed to the Board and other interested parties by December 3, 1986.

The public hearing on Flood Control Permit Application No. FC-4 was completed September 3, 1986. No additional testimony on this application will be received on December 10, 1986.

CERTIFICATION

I hereby certify that on September 9, 1986 I have personally deposited with the U.S. Mail postage prepaid envelopes containing a Notice pertaining to FC-4, Brant Lake Improvement Association addressed as stated below.

Jean Pearson, RR 1, Box 46C, Chester SD 57016
Mel Anderson, 2404 East 17th St, Sioux Falls SD 57103
Jimmie B Myers, 909 E 12th, Mitchell SD 57301
Richard L. Neish, 904 Marday, Sioux Falls SD 57101
Robert Ellingson, 3560 Gateway #303, Sioux Falls SD 57106
Rolly Samp, Attorney, Box 495, Sioux Falls SD 57101
Norman A & Tim A Basler, RR 1, Box 69, Wentworth SD 57075
Jim Brookshire, Box 470, Madison SD 57042
Clem & Darlene Gisi, RR 1, Box 72, Wentworth SD 57075
Jerome & Ethel M Erickson, Box 393, Sioux Falls SD 57101
Richard D Casey, Lakes County State's Attorney
PO Box 45, Madison SD 57042
Gerald Chalcraft, 1220 Territorial Rd, Madison SD 57042
Larry Alverson, Rt 1, Box 55, Chester SD 57016
Clifford L. Rindels, PO Box 8, Colman SD 57017-0008
James H Brookshire, PO Box 470, Madison SD 57042

Sent interoffice mail:
Jeff Stingley, Secretary, Game, Fish and Parks
Ron Koth, Game, Fish and Parks

Karen Schlaak
KAREN SCHLAAK
Senior Secretary

STATE OF SOUTH DAKOTA)
) SS
COUNTY OF HUGHES)

Sworn to, before me, this 9th day of September, 1986.

John Hatch
Notary Public

JOHN HATCH
SEAL NOTARY PUBLIC SOUTH DAKOTA SEAL
My Commission Expires Apr. 1, 1993

WHEREAS, Brant Lake has experienced severe flooding problems in recent years; and

WHEREAS, the high watermark on Brant Lake was set several years ago one foot higher than the previous lake level; and

WHEREAS, a combination of circumstances has contributed to the flooding problems of the lake; and

WHEREAS, one positive step to reducing flood damage according to state and private engineering surveys is to widen the outlet and put in a mechanical floodgate without changing the high watermark; and

WHEREAS, a group of lake residents, who are tenants of Mr. Norman A. Basler, a major property owner on the lake, continues to believe lowering the lake one foot would be a substantial help to flooding problems.

NOW, THEREFORE, the Brant Lake Association hereby goes on record through its executive board with the following positions:

1. We support a flood control permit for widening the outlet and putting in floodgates as the most reasonable program which can be accomplished at this time;
2. While we do not disagree with the Basler faction that the high watermark should be lowered, this issue is one to be addressed to those legal authorities who control establishing high watermarks. We do not feel this faction should divert attention from possible solutions to the problem with their own efforts that have little chance of being legally approved;
3. That the outlet widening/floodgate plan is a viable project for solving some of the lake problems even if the Basler group would ever achieve their goal of lowering the permanent high watermark one foot.

DATED this 19th day of September, 1986.

Bob Ellenpon Pres.

Jim Myers Vice Pres.

Lillian Hickenbottom, Secy/Treas

Samp Law Offices
Rollyn H. Samp
Counselor at Law

Harry A. Engberg
Associate

Martha Nelson
Office Manager

Kent Boadwine
Staff Asst.-Finance

528 South Phillips Ave.
P.O. Box 495
Sioux Falls, South Dakota 57101
(605) 339-1020

Telefax: (605) 334-6630
Telex: 82-1513

29 September 1986

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

Dear John:

Thanks for the time you gave me in Pierre last week.

For your file, enclosed is the resolution expressing the position of the Brant Lake group on the opposition of the Basler group to current flood control proposals.

Thank you.

Sincerely yours,

Rollyn H. Samp

smk

Enclosure

SOUTH Dakota Department of
Water & Natural Resources
Joe Foss Building
523 East Capitol
Pierre, South Dakota 57501-3181

September 29, 1986

G. W. Chalcraft, Chairman
Lake County Commission
1220 territorial Road
Madison SD 57042

Dear Mr. Chalcraft:

I am writing in regard to approval of Flood Control Permit No. FC-4, Brant Lake Improvement Association which was approved September 3, 1986 subject to adoption of Findings of Fact, Conclusions of Law and a Final Decision at the December 10, 1986 Water Management Board meeting.

Qualification No. 1 to the Permit will state:

> That downstream restrictions to flow in the Skunk Creek channel between the Brant Lake Outlet and the east side of the road on the Sections 23 and 24 section line, T105N, R51W be removed and/or road culvert capacities be increased where necessary to pass at least an additional 250 cubic feet per second (cfs) or a total of 900 cfs. Any "dry wash" or lowered roadway installed in lieu of additional culvert capacity shall be maintained to provide the design flow capacity.

It will be necessary for this qualification to be complied with before the Flood Control works may be constructed and used by the Brant Lake Association.

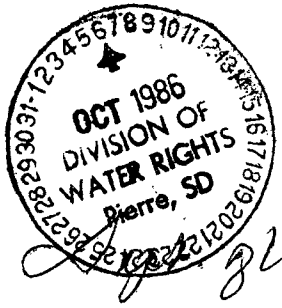
I believe that the County should adopt a motion or resolution that the channel restrictions will be removed or road culvert capacities increased with the expected date of completed. Without removal of the channel restrictions or increasing culvert capacities, the Flood Control Permit can not be used.

Please provide me with a copy of any motion or resolution by October 31, 1986.

Very truly yours,

JOHN HATCH, Chief Engineer
Water Rights Division

cc: Bob Ellingson
Rollyn H Samp, Attorney
Daryl Pearson, Lake County Commission
Irvin Feistner, Lake County Commission



DR. M. B. PAULSON
DENTIST
~~1908 S. MINNESOTA AVE.~~ 1102 So. 2nd Ave.
SIOUX FALLS, SO. DAK. 57105

Dept. of Water Resources —

We are writing to express our concern about the high water level here at Lake Brandt. As a property owner for the past 19 years we are acutely aware of the changes in this level over these years.

We were told that the lake could be raised if it did not cause soil erosion or property damage — & then only to be a temporary thing.

A few years ago a cement slab was erected at the outlet. This was not a request of the cabin owners nor was permission asked or given by them.

We've been told that Gail Skerson of Paire said he could find no record for such a permit.

Our question is why can not this

Cement slab be removed and the outlet could be brought back to the height that it was before the cement was put in. We had no flashing then.

At one time there were removable wooden gates across which controlled this rate in a satisfactory manner. This should be controlled by the State and not by individual property owners.

We feel that the attempt to get a grant to rock the shoreline would be not only extremely expensive, but unnecessary as this type of barrier would not prevent flooding of property that for some of the owners had been disastrous not only monetary, but time & inconvenience as well. Many have lost several feet of their shoreline which has meant fill and cement sea walls erected to protect further erosion of lots - & destruction of cabins.

Sincerely.

Mr. & Mrs Paulson.

Sept. 26, 1986

Dept. of Water Resourse
Pierre, So. Dak.

Gentlemen:

I'm writing in regards to the high lake water level.

I grew up on Brandt Lake, learned to swim there as my own children now have and never did we have problems till the one foot cement slab was put in.

Why do a couple people dictate to the State as to what level they want the Lake ??? Should it not be up to the people here??

If the level were left where it used to be we would not have soil erosion or property damage.

We used to have a nice sand beach which was a great help to my son who has Cerebral Palsy, but now there is no sand for him to enjoy, just way too high water.

I heard they wanted to get a grant to rock the shore line. How stupid. just take the one foot off and we won't need the rocks. They wouldn't help the flooding anyway.

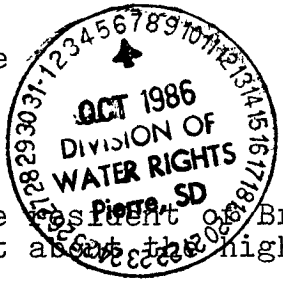
Let's get the Lake back where it should be.

LOT # C 13

Yours truly,

Mr & Mrs Darrell Poulin
913 No Main Ave
Sioux Falls
S. Dak
57104

Sept. 24, 1986



Dept. of Water Resourse
Pierre, So. Dak.

Gentlemen:

Having been a long time resident of Brandt Lake I'm concerned and upset about the high water level of the lake.

It was my understanding from the minutes of the Lake Assoc. meeting the level could be raised if it did not cause soil erosion or property damage. It was to be a temporary thing.

Per some members conversation with Gail Slocum of Pierre he stated that he could not find where any permission was given to put the one foot cement slab in. If that was put in without permission why can't it be removed without any problems and put the lake back to the level it used to be?

We bought our lake property about 1950 and moved up here year around in 1968. All those years we never had our property in danger of high water till this slab was put in. Never before did we own a sub pump to keep our crawl space free of water till now. Had to put it in to keep the water out of our house. It was within ~~in~~ a few inches of coming in our living quarters.

Why should so many of us pay the price of damaged property just because a couple ~~wet~~ want it high. We pay taxes too.

As for them getting a grant to buy rock for shore line , that is really poor thinking. Just take the one foot off and let the lake go back to the original level and we won't have any soil erosion or property damage. The rocks won't help flooding.

If gates are put in it should be controlled by the State, not the Lake Assoc.

Yours truly.

Mr. & Mrs. R. A. Paulin
Box 220
Chester, SD 57016

Mr. & Mrs. R. A. Paulin

SOUTH Dakota Department of
Water & Natural Resources
Joe Foss Building
523 East Capitol
Pierre, South Dakota 57501-3181

November 18, 1986

Bob Ellingson, President
Brant Lake Improvement Association
3560 Gateway Boulevard
Sioux Falls SD 57106

Dear Mr. Ellingson:

I am writing in regard to a proposed modification to the approval of Flood Control Permit No. FC-4 for Brant Lake. The permit was approved September 3, 1986 subject to adoption of Findings of Fact, Conclusions of Law and a Final Decision at the December 10, 1986 Water Management Board meeting.

Permit approval was to extend the outlet 40 feet and to lower the base of the extension by one foot with 12 inch control gates. The extension gates were to be operated pursuant to an operating plan. We have prepared a proposal to be included in the final decision to be adopted by the Water Management Board. The proposal is to modify the Final Decision by lowering the 40 foot extension by only 6 inches rather than one foot. This proposal would eliminate the use of gates and an operational plan.

In addition to the approval of FC-4 and prior to construction, approval to add the extension must be received from the Game, Fish and Parks Commission since the Department owns the existing outlet. Construction authorized by Permit No. FC-4 may not proceed until the county completes the downstream culvert and/or bridge expansions.

Very truly yours,

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

cc: Jim Myers, Vice-President, Brant Lake Improvement Assn.
G.W. Chalcraft, Chairman, Lake County Commission
Jeff Stingley, Secretary, Game, Fish & Parks
Ron Koth, Game, Fish and Parks
Rollyn Samp, Attorney
Daniel J Doyle, Assistant Attorney General

South Dakota Department of
Water & Natural Resources
Joe Foss Building
523 East Capitol
Pierre, South Dakota 57501-3181

November 19, 1986

Bob Ellingson, President
Brant Lake Improvement Association
3560 Gateway Boulevard
Sioux Falls SD 57106

Dear Mr. Ellingson:

My letter dated November 18, 1986 concerning Flood Control Permit No. FC-4 for Brant Lake needs to be clarified. The proposal to lower the 40 foot extension by 6 inches is intended to replace the 12 inch control gates and the requirement for a gate operational plan.

Since there is nothing in the hearing record concerning lowering the 40 foot extension only 6 inches, agreement by everyone interested in Permit No. FC-4 including the Water Management Board will be necessary. The alternative is to have a gate operational plan that is acceptable to the Board ready for the Board meeting December 10, 1986.

Very truly yours,

John Hatch

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

cc: Jim Myers, Vice-President, Brant Lake Improvement Assn.
G.W. Chalcraft, Chairman, Lake County Commission
Jeff Stingley, Secretary, Game, Fish & Parks
Ron Koth, Game, Fish and Parks
Rollyn Samp, Attorney
Daniel J Doyle, Assistant Attorney General

Samp Law Offices

Rollyn H. Samp

Counselor at Law

Harry A. Engberg
Associate

Martha Nelson
Office Manager

Kent Boadwine
Staff Asst.-Finance

528 South Phillips Ave.
P.O. Box 495
Sioux Falls, South Dakota 57101
(605) 339-1020

Telefax: (605) 334-6630
Telex: 82-1513

1 December 1986

Mr. John P. Guhin
Assistant Attorney General
Office of Attorney General
Natural Resource Section
Room B-102, Anderson Building
Pierre, SD 57501-3188

Dear Mr. Guhin:

As counsel for the Brant Lake Association, the group has asked me to convey to the state their wishes to accept the amendment of the Flood Control Permit No. FC-4 as proposed by Engineer John Hatch in his letter of 18 November 1986, and subsequent letter of 19 November 1986.

Upon agreement of all parties, we would like the Findings of Fact and Conclusions of Law amended so as to reflect our concurrence with the suggestions of Mr. Hatch.

Please advise us of any additional steps needed by the group to support this Flood Control Permit.

Thank you.

Sincerely yours,

Rollyn H. Samp

Rollyn H. Samp

aj

Enclosure

November 30, 1986

To: S. D. Department of Water & Natural Resources

From: Jim Myers, Brant Lake Property owner.
and Vice-Pres. Brant Lake Assn.

Subject: Permit Application No FC-4 5 spillway
Widening.

Dear Water Management Board and John Hatch,

Our attorney Rollyn Samp is sending the offical comments on behalf of the Brant Lake Improvement Association. As a Lake Co. tax payer that is very concerned about the deterioration of Brant Lake, I feel I must make a few personal comments along with background information on the need for widening the Brant Lake Spillway.

As to background information, up until 3 years ago my family was the owner of the land through which the outlet flows for the first 1 1/2 miles down stream from the lake, we also owned the 3/4 mile of shoreline that the state now has control of, along with the spillway site itself. We also granted the construction easment to the State for the fish trap 1/3 mile downstream from the outlet.

With this information in mind, I would like to address the concerns your Board expressed. First of all the down stream land owners were informed by the permit notice in the Madison Daily Leader, also, if the four new owners on the down stream 1 1/2 mi reach of the Channel believe they bought anything except overflow land, they need only to check the soils publication and they will find that the Skunk Creek Channel bottom is a Class V. W. land that is subject to flooding, it always has, it always will. Siltation has been a factor in this Channel, erosion has not

Additional flow will not change this Condition. As owners of this land, our only concern was that when high water washed out the three down stream bridges that the township replaced them with culverts that were too small and it would retard water on the land till the culverts would be washed out and the Channels would then return to normal flow. They have washed out many times and they will continue to be washed out whether the spillway is widened or not.

As the designer of the proposed outlet structure, I not only based my design on surveys, 20 years experience and Counseltation with licensed engineers, I also used personal experience and knowledge of the land, to provide the best alignment and protection to the adjacent down stream owner and for the Channel its self. Once again, this owner was informed by the Madison paper, and the plans were sent to his township board Chairman, his County Commissioner, the State Fish and Game and State Water Resources The Brant Lake Assn. did not feel it was necessary to hand carry the details of this plan to each down stream or lake owner for their approval or disapproval. We did feel it was their responsibility to contact their local units of government or our Assn. for any questions they might have. To date, we have had no response from any of the units of government, as to the design or the opelation of the proposed structure.

Your concern for the down stream road structure, we felt had been taken care of prior to the Sept. hearing or we would not have requested it to take place at that time. It was also re-

from Lake Co. State Attorney to John Hatch, when he stated, and I quote: "Lake County Commission takes no official position for or against your recommendation, dated July 30, 1986." They did reserve a right to testify against the project, but chose not to. I saw this as another sign of approval. Since the Sept. hearing our Assn. and John Hatch, on a number of occasions have requested additional information and decisions from the Lake Co. Commissioners, but we have had no response to date.

The State Game, Fish and Parks has indicated they have a vested intrest in this project, we have requested information and input from them, but again we cannot get any response. They have informed us that they are the owners of the outlet structure, I would say the people of South Dakota are the owners and they are simply the managers, and any approval or disapproval they make to modifications or additions, will need to be in the best interest to all the people of So. Dak., to protect this natural resource, which is Brant Lake. They are also managers of the largest single tract of land on the lake and because of heavy public use, the lake banks are in a much more erodable state, than when my family owned it and the slopes were protected with good grass cover. Therefore, it has become one of the largest sources of sediment erosion into our lake.

In Conclusion, Brant Lake has gone into this winter at the highest level I can remember and the watershed above is full and overflowing. With any amount of snow melt or rains in the spring,

Brant Lake and Skunk Creek are going to reach peaks like we maybe never seen before and the township culverts, once again will washout and the County road South of Chester will overtop, once again. This has been and will occur, whether the spillway is widened or not. Culverts can be replaced and damage to black top roads can be repaired, but the damage that is being done to Brant Lake is not replaceable. I urge you to approve flood control Application No. 4, so that work can start <u>immediately</u> on opening the spillway and relieving the head of water on Brant Lake, all the way to Lake Herman, and also providing use with a flow capacity that will greatly lessen the damage to this natural resource.

God only made one Brant Lake, Man can make lots of Culverts!

Sincerely yours,

Jim Myers
909 E 12th Ave.
Mitchell, S.D. 57301
Tel. #996-8225

P.S. Because of mail delivery timing, I am not mailing to all board members, please share this letter.

South Dakota
Department of Game, Fish and Parks

Office of the Secretary
Sigurd Anderson Building
445 East Capitol
Pierre, South Dakota 57501
(605) 773-3387

December 2, 1986

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

Dear Mr. Hatch:

The Department of Game, Fish and Parks has reviewed the proposed Findings of Fact, Conclusions of Law and Final Decision regarding flood control permit FC-4 for Brant Lake. We have also reviewed the proposed modification to FC-4 as outlined by the Chief Engineer in a November 18, 1986 letter to the Brant Lake Association.

The Department concurs with the proposed modification to place the 40 foot extension at 1597.3 msl to facilitate peak outflows from Brant Lake provided downstream flooding is not increased. A review of the history of the Brank Lake outlet indicates that lowering the outlet extension may be appropriate to maintain the integrity of the ordinary high water mark. Upon agreement by all parties the Findings of Fact and Conclusions of Law should be amended to reflect this proposal.

Sincerely,

Jeff Stingley
Secretary

JS/RK/ld

cc: Bob Ellingson
Rollyn Samp

NOTICE OF
PROPOSED MODIFICATION TO FLOOD CONTROL PERMIT
APPLICATION NO. FC-4,
To Eliminate the Need For a Control Gate Operating Plan
December 2, 1986

September 3, 1986 the Water Management Board approved Flood Control Permit Application No. FC-4 subject to approval of Findings of Fact, Conclusions of Law and a Final Decision. One qualification to approval was preparation of a control gate operating plan to be presented at the December Water Management Board meeting. In lieu of the operating plan, the Water Rights Division is recommending that approval be modified as follows:

1. Widen the extended portion of the outlet 30 feet rather than 40 feet.
2. Lower the extended portion of the outlet 0.5 feet rather than 1 foot.
3. Exclude installation of control gates in the extended portion of the outlet.

Computer analysis results of the 100-year storm event for this proposed outlet design and that of 3 other outlet configurations are shown in the following table.

Brant Lake 100 Year Storm

Outlet Design	Peak Outlet Discharge	Peak Lake[1] Elevation
Present outlet size	660 cfs	102.88
Widen outlet by 40 feet. Lower the 40 foot extension by 1 foot. Include control gate and an operating plan. (motion adopted by WMB on September 3rd)	900 cfs[2]	101.94
Widen outlet by 40 feet. Lower the 40 foot extension by 6 inches. No gate or operating plan.	1070 cfs[3]	102.28
Widen outlet by 30 feet. Lower the 30 foot extension by 6 inches. No gate or operating plan.	950 cfs[3]	102.33

1 Based on relative datum of present outlet elevation of 100 ft.
2 Assumes that concrete pillars will be constructed between each gate which reduces flow.
3 Assumes no concrete pillars in extensions.

Discussion

Computer analysis of the proposed outlet design adopted by the Board on September 3, 1986 revealed an acceptable peak discharge and lake elevation. However, these results were based on the lake elevation being at the level of the lowered outlet when this design storm occurred, and operation of the gate would "artificially" keep the water level raised under most circumstances, thus causing the modeling results to indicate lower discharge and lake level peaks than would probably occur. This problem combined with costs, possible disputes over gate operation and other difficulties inherent in regulating outlet flow makes this design less desirable.

Another alternative considered was to widen the outlet 40 feet and lower that portion 6 inches and exclude any gates or use of an operating plan. This proposal is unacceptable because the peak discharge of 1070 cfs was too great an increase over the 900 cfs discharge peak in the proposal adopted at the September meeting.

Widening the outlet by 30 feet and lowering that portion by 6 inches with no control gates installed or operational plan implemented is a more satisfactory proposal because:

1. It removes the problems associated with installation and operation of control gates.

2. The outlet design changes will increase the peak discharge from 900 cfs to 950 cfs or by about 5% above the peak flow in the adopted proposal. The Division believes this is an acceptable increase given the uncertainty of the 900 cfs value under gate operation.

3. By lowering the extended portion 6 inches rather than 1 foot, a better compromise between those who wish to see a higher lake level and those who prefer a lower lake elevation is achieved.

4. Excluding control gates increases the ability to accurately model the discharge because there is no "artificial" changing of the water level which can cause errors in the computer model results.

5. Cost of implementing the permit will be reduced because of lower construction and maintenance costs.

A 40 foot extension lowered 6 inches with concrete pillars was also modeled. The results were a peak discharge of 985 cfs. Since this discharge was near 950 cfs, the 30 foot extension lowered 6 inches would be less expensive and achieve the same results.

Tom Brandner

Tom Brandner
Natural Resources Engineer

SOUTH Dakota Department of
Water & Natural Resources
Joe Foss Building
523 East Capitol
Pierre, South Dakota 57501-3181

December 2, 1986

NOTICE

TO: Water Management Board and Parties to Flood Control Permit Application No. FC-4

FROM: John Hatch, Chief Engineer
Water Rights Division
605 773-3352

SUBJECT: Flood Control Permit Application No. FC-4

September 3, 1986, the Board approved Flood Control Permit Application No. FC-4, Brant Lake Improvement Association, subject to approval of Findings of Fact, Conclusions of Law and a Final Decision. Application No. FC-4 is to widen the outlet structure for Brant Lake (Lake County) by 40 feet and lowering the elevation of this extended portion one foot below the elevation of the existing outlet. The outlet extension is to be equipped with 12 inch high control gates to be used in regulating the lake level between the present outlet elevation and the elevation of the proposed extension.

The approval was subject to several qualifications, one of which was preparation of a control gate operating plan to be presented at the December 10, 1986 Board meeting. The Water Rights Division is requesting that the hearing on Flood Control Permit No. FC-4 be reopened December 10, 1986 for the sole purpose of allowing testimony on an outlet extension proposal, which if approved would eliminate the need for an operating plan.

A copy of this Notice and a Notice of Proposed Modification to Flood Control Permit Application No. FC-4 to Eliminate the Need For a Control Gate Operating Plan is being provided to all parties. If the Board accepts the Division's request to reopen the hearing December 10, 1986, the request will be reconsidered at 11:00 am prior to consideration of Findings of Fact, Conclusions of Law and a Final Decision on FC-4.

CERTIFICATION

I hereby certify that on December 2, 1986 I have personnally deposited with the U.S. Mail postage prepaid envelopes containing a NOTICE pertaining to FC-4, Brant Lake Improvement Association addressed as stated below:

Jean Pearson, RR 1, Box 46C, Chester SD 57016
Mel Anderson, 2404 East 17th St, Sioux Falls SD 57103
Jimmie B Myers, 909 E 12th, Mitchell SD 57301
Richard L. Neish, 904 Marday, Sioux Falls SD 57101
Robert Ellingson, 3560 Gateway #303, Sioux Falls SD 57106
Rolly Samp, Attorney, Box 495, Sioux Falls SD 57101
Norman A & Tim A Basler, RR 1, Box 69, Wentworth SD 57075
Jim Brookshire, Box 470, Madison SD 57042
Clem & Darlene Gisi, RR 1, Box 72, Wentworth SD 57075
Jerome & Ethel M Erickson, Box 393, Sioux Falls SD 57101
Richard D Casey, Lakes County State's Attorney
PO Box 45, Madison SD 57042
Gerald Chalcraft, 1220 Territorial Rd, Madison SD 57042
Larry Alverson, Rt 1, Box 55, Chester SD 57016
Clifford L. Rindels, PO Box 8, Colman SD 57017-0008
James H Brookshire, PO Box 470, Madison SD 57042

Sent interoffice mail:
Jeff Stingley, Secretary, Game, Fish and Parks
Ron Koth, Game, Fish and Parks

Karen Schlaak
KAREN SCHLAAK
Senior Secretary

STATE OF SOUTH DAKOTA)
) SS
COUNTY OF HUGHES)

Sworn to, before me, this 2nd day of December, 1986.

JOHN HATCH
SEAL NOTARY PUBLIC SEAL
SOUTH DAKOTA
My Commission Expires Apr. 1, 1993

John Hatch
Notary Public

SOUTH Dakota Department of
Water & Natural Resources
Joe Foss Building
523 East Capitol
Pierre, South Dakota 57501-3181

January 5, 1987

NOTICE

TO: Persons Interested in Flood Control Application No. FC-4, Brant Lake Improvement Association

FROM: John Hatch, Chief Engineer
Water Rights Division
605 773-3352

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

This is to notify you that a final Decision including Findings of Fact and Conclusions of Law were adopted by the Water Management Board for approval of Flood Control Application No. FC-4, Brant Lake Improvement Association which was considered at the September 4, 1986 meeting.

Enclosed is a copy of the Findings of Fact, Conclusions of Law and Final Decision as adopted by the Board. South Dakota Statutes provide that the decisions of the Board may be appealed to the Courts.

enclosure

CERTIFICATION

I hereby certify that on January 5, 1987, I have personnally deposited with the U.S. Mail postage prepaid envelopes containing a NOTICE pertaining to FC-4, Brant Lake Improvement Association addressed as stated below:

Jean Pearson, RR 1, Box 46C, Chester SD 57016
Mel Anderson, 2404 East 17th St, Sioux Falls SD 57103
Jimmie B Myers, 909 E 12th, Mitchell SD 57301
Richard L. Neish, 904 Marday, Sioux Falls SD 57101
Robert Ellingson, 3560 Gateway #303, Sioux Falls SD 57106
Rolly Samp, Attorney, Box 495, Sioux Falls SD 57101
Norman A & Tim A Basler, RR 1, Box 69, Wentworth SD 57075
Jim Brookshire, Box 470, Madison SD 57042
Clem & Darlene Gisi, RR 1, Box 72, Wentworth SD 57075
Jerome & Ethel M Erickson, Box 393, Sioux Falls SD 57101
Richard D Casey, Lakes County State's Attorney
PO Box 45, Madison SD 57042
Gerald Chalcraft, 1220 Territorial Rd, Madison SD 57042
Larry Alverson, Rt 1, Box 55, Chester SD 57016
Clifford L. Rindels, PO Box 8, Colman SD 57017-0008
James H Brookshire, PO Box 470, Madison SD 57042

Sent interoffice mail:
Jeff Stingley, Secretary, Game, Fish and Parks
Ron Koth, Game, Fish and Parks

Karen Schlaak
KAREN SCHLAAK
Senior Secretary

STATE OF SOUTH DAKOTA)
) SS
COUNTY OF HUGHES)

Sworn to, before me, this 5th day of January, 1987.

John Hatch
Notary Public

JOHN HATCH
SEAL NOTARY PUBLIC SOUTH DAKOTA SEAL
My Commission Expires Apr. 1, 1993

SOUTH Dakota Department of
Water & Natural Resources
Joe Foss Building
523 East Capitol
Pierre, South Dakota 57501-3181

January 21, 1987

Jim Meyers
909 E 12th
Mitchell SD 57301

Dear Mr. Meyers:

As requested, enclosed is a copy of an August 30, 1986 letter signed by Michael C Thurman concerning Brant Lake.

If we can be of further assistance, please contact this office.

Very truly yours,

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

JH:ks

enclosure

SOUTH Dakota Department of
Water & Natural Resources
Joe Foss Building
523 East Capitol
Pierre, South Dakota 57501-3181

FEB 17 1987

Bob Ellingson, President
Brant Lake Improvement Association
3560 Gateway #303
Sioux Falls SD 57106

Dear Mr. Ellingson:

Enclosed is your Flood Control Permit No. FC-4 as approved by the State Water Management Board. Please advise if you have any questions on the Permit.

Very truly yours,

John Hatch

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

enclosures

cc: Jim Meyers
Lake County Commission

July 6 1987

Mr John Hatch
Chief Engineer
Water Rights Division
Joe Foss Building
523 East Capitol
Pierre, S.D. 57501-3181

Dear Mr Hatch
RE: Brandt Lake Flood Control
Permit application # FC 4

I have several unanswered questions concerning this permit.

One The so called hundred year storm of 5.8 inches of rainfall in a twenty four hour period on the Brandt Lake watershed. This amount is less than one fourth of an inch per. hr. average. With an absorbtion rate of five tenths inch per. hr. Where is the flood water from this storm?

Two According to your projection Brandt Lake was assumed to be full at the beginning of the storm. But you also show a discharge of 625 CFS from Lake Madison. Was this discharge from Lake Madison the unlikely cause of the same storm or had it been discharging at afore said rate before the storm. If so why was there no discharge from Brandt Lake at that time?

Three From observation of this springs "1987" runoff from Brandt Lake. The culverts down stream from the outlet handled the flow very well until it reached the area diretly south of Chester. There the water built up almost to the top of the bridge on the North South road & almost to capacity of the bridge on the east west road.

Where is the restriction that causes this type of buildup of water? The answer is not further downstream because there is at least a four ft. drop on the east side of the railroad bridge.

Four If the proposed widening & deepening of the Brandt Lake spillway will cause the water to rise four ft. above the present low point in the dike between the bridge in the east-west road & the railroad bridge. Where is the restriction that will cause such a rise in the flood waters? What is to prevent them from rising even further?

Fifth If it is necessary to put additional culverts in the townships & county roads in Lake County & also a dike at the railroad to control

the additional flooding. Why isn't it necessary to add culverts & control structure further downstream?

Sixth Four ft. above the present low point in the dike. Is above the level of the east west road. In view of this ~~fact~~. What type of a dike would you say is necessary to protect my property from severe flooding

Yours Very Truly

Leonard Klamm

RR1 Box 101
Colton S. Dak.
57018

SOUTH Dakota Department of
Water & Natural Resources
Joe Foss Building
523 East Capitol
Pierre, South Dakota 57501-3181

August 3, 1987

Leonard Klamm
RR1, Box 101
Colton, SD 57018

Dear Mr. Klamm:

I am writing in response to your July 6, 1987 letter concerning Brant Lake Flood Control Permit FC-4. You asked several questions in regard to FC-4.

Question # 1
The 5.8 inches of rainfall that would occur in the 24 hour period would not occur in even time increments. As with most storms, the most intense rainfall occurs over a short period of time. The computer model simulates the rainfall event by having low rainfall amounts occurring initially then increasing to a peak intensity and tapering off again until the 5.8 inches has fallen in the 24 hour period. The rainfall distribution is based on numerous other measured precipitation events.

The infiltration rate used in the program was 5 hundredths of an inch (0.05) per hour in addition to an initial rainfall loss of 3 tenths of an inch (0.3) to the ground and atmosphere. The absorption rates that occur depend primarily upon the antecedent moisture conditions, slope, soils type and rainfall distribution. Under this heavy rainfall near saturation conditions develop and most of the rainfall results in runoff into the lake.

Question # 2
Brant Lake was assumed to be full to the spillway outlet level when the 100 year design storm began. If water was discharging over the spillway when the rainfall began, the resulting flood flows would have been greater; conversely, the peak flows would have been less than predicted if the lake level was assumed to be below the spillway when the storm began.

Flow from Lake Madison into Brant Lake was started at the same time that the computer simulation of the storm began. Flow out of the Brant Lake outlet began immediately after the Lake Madison flows were received. The flows were assumed to occur from the same general storm. The exact timing of the discharges at the beginning of the simulation is insignificant. Discharge from Lake Madison was included in the computer model to take into account peak Brant Lake outflows that could result should the Brant Lake storm occur at the same time Lake Madison was discharging large volumes of water into the lake.

Question # 3

At the location of the north-south (N-S) road south of Chester, the channel flood plain is fairly wide, whereas upstream of this it is somewhat more restricted (in most areas) with narrower side slopes to funnel the water through the culverts. The stream gradient itself also appears to increase slightly upstream which facilitates flow. South of Chester the water is not channelled to the box culvert but spreads out behind the road until the water elevation head by the culvert is great enough to pass the incoming flows through the culvert. The build up here is due to the wide floodplain, low capacity box culvert, and slight channel gradient. On the north side of the East-West (E-W) road high water is probably due to the low capacity of the culvert, the slight gradient, the trees and brush in that section and the sharp curve in the channel. All of these factors slow the water velocity and contribute to a subsequent rise in the water elevation.

Question # 4

Under the various hydrologic parameters assumed with the computer model the flood water could possibly reach to 3.5 feet (to elevation 1589.5 ft. msl.) above the present low point in the dike located adjacent to the railroad bridge. If upstream culvert restrictions were removed, the water could rise to 2.0 feet above the dike under the present spillway outlet design accompanying the 100 year storm. Even under the present channel conditions, the dike could be overtopped by about 0.5 feet in a 100 year storm event. Thus, danger to the dike is not a new phenomenon since the approval of Flood Control Permit FC-4. The restrictions here are the slight gradient in the area, the narrowness of the channel, the sharp bend in the stream channel and the railroad embankment. The elevation of the water at this location is an estimate of the peak under the given conditions. Because this volume of water (950 cfs) is the approximate maximum that can discharge from the Brant Lake outlet under FC-4, a larger peak flow could not reach the dike from the lake. There would also be some loss of water due to off channel storage and infiltration into overbank areas. If any of the upstream culvert capacities are restricted to 950 cfs or less, then flows could not exceed this value. Thus, under the assumed conditions it is unlikely that the water would rise higher than the elevation stated previously. Only under significant backwater effects could it rise higher. Backwater effects were not simulated with this computer model, but the adequate discharge capacity of the railroad bridge should reduce the likelihood of "significant" backwater effects at this elevation. Minor backwater problems may occur here because of the restrictions noted above.

Question # 5

The discharge capacity of the culverts beneath the N-S gravel road located between sections 23 and 24, approximately a mile downstream from the railroad bridge must be expanded under FC-4.

Additional discharge capacity was not required further downstream for the following reasons.

a. Just below this point Buffalo Creek enters Skunk Creek. This creek adds over 6 times as much drainage area to the creek as does Brant Lake's immediate basin. Additionally, a number of small streams enter Skunk Creek below this point also, so as you continue downstream the proportion of flow contributed by Brant Lake drainage becomes less and less and the impact of FC-4 is reduced also.
b. For the first 4 or 5 miles below the study area Skunk Creek flows across areas with no roads, one small unimproved road, or gravel roads which have adequate sized bridges to handle the additional flows. Anderson Slough, located 2 or 3 miles below our study area would also drain off some of the flow from Skunk Creek.
c. As the flood waters move downstream, the peak flows are reduced due to losses into overbank areas and sloughs, infiltration into the ground and so forth.

Question # 6

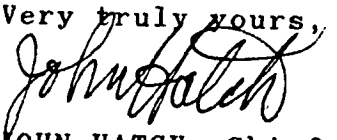
Near the intersection of the N-S and E-W paved roads the elevation of the E-W road (1588 ft., msl) is approximately 1 to 2 feet lower than the proposed dike (elevation 1589.5 ft. msl.). It is possible that some water may flow over the road rather than all the water passing under the E-W road culvert. As we understand it, this road has been overtopped in the past with the present lake outlet in place. This water drains to the slough north of your place and discharges back out to Skunk Creek below the railroad bridge. Under the assumptions made in the model simulation, the placement of the additional culverts under the N-S and E-W paved roads should prevent any increased flows from the new Brant Lake outlet from causing any additional road overtopping. Flood Control Permit FC-4 is designed to prevent additional flooding from any increased flows due to the outlet change. It is not required to alleviate flood problems that have existed in the past and will occur again under similar hydrologic conditions.

Whether the road would overtop depends somewhat upon on the design of the new culverts. If the entire flow does pass under the E-W road culvert, the water may be temporarily "stacked up" in the dike area due to the channel restrictions noted in question 4. This could cause some impoundment there before flowing under the railroad bridge. Because the water elevation by the dike could get higher than by the E-W road culvert some water could temporarily flow back through the culvert. This would be short lived; once the peak has receded and the downstream gradient reestablished the water would flow unimpeded through the dike area.

Flood forecasting is not an exact science, and the results expressed are estimates based on a specific set of circumstances and assumptions. Our best estimates are that the implementation of FC-4 in conjunction with the raising of the dike will not cause you additional flooding under the assumptions used in the computer model.

Thank you for writing in regard to your concerns. We are confident that FC-4 will not result in additional flooding to your property.

Very truly yours,



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

Lake County Conservation District
123 S.W. 2nd St. - Madison, South Dakota 57042 - Phone (605) 256-2094

July 15, 1996

RE: Lake Madison/Brant Lake Phase I Study

Property owners of Brant Lake:

We are completing the final stages of the Phase I Diagnostic Feasibility Study of Lake Madison and Brant Lake. In a study of this nature the goal is to do a complete assessment of the watershed area surrounding the lake. All of the activities in the watershed have an affect on the health of the watershed and the lake, Ag and Non-Ag.

Therefore, to complete the assessment of Lake Madison, we are sending out the enclosed anonymous survey. It is important that you review the questions on the survey, and answer any questions that you can, as best as you can. We can assist you with some information sharing on the feedback from this survey. Some of the results from this survey may be of useful value in your endeavors for a Sanitary Sewer System.

This is an opportunity for each person to have input into this study. Please feel free to express any ideas, priorities, or any concerns you have about your lake. Please express any expectations you have for the lake. Your thoughts and input are important. The success of this part of the project depends on the level of participation and response we can receive on this survey.

The Brant Lake Improvement Association has assisted with and supports this study. Your Association encourages your participation in this survey. On behalf of the Lake County Conservation District, and the Brant Lake Improvement Association, we thank you for your assistance and cooperation with this information survey.

Please complete the enclosed survey, and return to us in the enclosed self-addressed envelope by July 31st. If you have questions, or if we can be of assistance, please call 256-2094.

Sincerely yours,

Michelle Goodale

Michelle Goodale, District Manger
Lake County Conservation District

Sincerely yours,

Terry Mehlbrech

Terry Mehlbrech, President
Brant Lake Improvement Association

(OVER - PAGE 1 OF SURVEY)

FC4-3

SD EForm - 0495LD V2

NOTICE OF TRANSFER OF OWNERSHIP

For assistance call (605) 773-3352

Mail to: PMB 2020
DENR - Water Rights Program
523 E Capitol Ave
Pierre, SD 57501-3182

Water Right/Permit No. FC-4

Date: October 28, 2020

I/We request that Water Right/Permit No. FC-4 formerly owned by:
Brant Lake Improvement Association be transferred to:

New Owner Name: South Dakota Department of Game, Fish and Parks
Address: 523 E Capitol Ave
City, State, Zip Pierre SD 57501 Telephone No. 605-773-3718

Title to the following described land(s)/property has been transferred as described above:
The Brant Lake Improvement Association (BLIA) was issued Flood Control Permit FC-4 to construct an outlet structure on Brant Lake (Sec 9, T 105N, R 51W) in Lake County. The BLIA would like to transfer ownership of the outlet structure to GFP. GFP will assume ownership of the outlet structure and will conduct the operation and associated maintenance of the structure.

[★] I understand that the validity of Water Right/Permit No. FC-4 has not been determined by this transfer action. If I have any questions on validity, I understand that only the Water Management Board has the authority to determine if a water right/permit is valid (see note below.)

You are requested to file this "Notice of Transfer" in the appropriate file with the Water Rights Program, as evidence of the change of ownership.

A fee of Fifty Dollars ($50.00) is included to cover the filing fee as required by SDCL 46-2-13.

I, Kelly Hepler, the new owner, certify that the above information is true and correct.

DocuSigned by:
Kelly Hepler 10/28/2020
(signed by new owner)

NOTE: Water permits may be cancelled for nonconstruction after the five year construction period has expired. Once a water permit is developed and the water used, the permit becomes a right. A water right may be lost for three reasons:

1. Abandonment - no intent to use water and use is abandoned.
2. Forfeiture - no use of water for three year period without legal excuse.
3. For a third violation of a condition of a water permit/right.

2009-07

FC 4-3

DocuSign Transmittal		
	Initial	Date
Bill Haddock, GFP Engineering	BH DS	10/28/2020
Ryan Tobin, GFP Engineering	RCT DS	10/28/2020
John Lott, GFP Wildlife	JL DS	10/28/2020
Tom Kirschenmann, GFP Wildlife	TK DS	10/28/2020
Kevin Robling, Deputy Secretary	KR DS	10/28/2020
Kelly Hepler, Department Secretary (Rachel Comes, copy)	KH	10/28/2020
Returned to Bill Haddock, GFP Engineering		

Document: Notice of Transfer of Ownership

Remarks from Engineering:
RCT

Remarks from Wildlife:
Approval was provided by Secretary Hepler to pursue transfer of the flood control permit from the Brant Lake Improvement Association to GFP and modification of the permit to meet the specifications of the existing structure that will be replaced.

Remarks from Wildlife:
Per internal discussions, this appears to be the most logical management approach moving forward.

Remarks from Deputy Secretary:
Brant Lake provides an incredible recreational opportunity to South Dakota residents and it's visitors. The Department wants to ensure those recreational exist for future generation and is committed to maintenance and upkeep of the outlet structure.

FC4-3

Voucher (2)

APPL. AREA	30	VOUCHER #:
DATE	10/29/2020	N06110J018
NUMBER		
DATA TYPE	1	

CR
DR

FROM: Game Fish and Parks
TO: DENR

LINE	COMP	ACCOUNT	CENTER		AMOUNT	DR CR	USER CODE
1	3122	52040300	0610044	BRANT LAKE	50.00	DR	
2	3012	4299805	2020005800	DENR	50.00	CR	
3						CR	
4						CR	
5						CR	
6						CR	
7						CR	
8						CR	
9						CR	
10						CR	
						CR	
	TOTAL	DR			50.00		
	TOTAL	CR			50.00		
	VOUCHER TOTAL				100.00		

Description of service, product, or transfer

I declare and affirm under the penalities of perjury that this claim has been examined by me, and to the best of my knowledge and belief, is in all things true and correct. I further agree to comply with the provisions of the Civil Rights Act of 1964 and regulations issued thereunder relating to non-discrimination in federally assisted programs.

Lucy Kerser — AUTHORIZATION

Jeremy Tentinger — AUTHORIZATION — 10/11/2019

FC4-3

DENR
SOUTH DAKOTA

DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES
JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3182
denr.sd.gov

November 5, 2020
(Interoffice)

FC4-3

Kelly Hepler, Secretary
SD Dept of Game, Fish & Parks
523 E Capitol Ave
Pierre Sd 57501

Dear Secretary Hepler:

I am writing to acknowledge receipt of the transfer of ownership and filing fee for FC4.

The ownership change has been completed. FC4 formerly held by the Brandt Lake Improvement Association is now listed in the name of the SD Department of Game, Fish and Parks.

The application G F & P recently submitted for a flood control permit was given No. FC38 and is now being reviewed in preparation for a staff report and the Chief Engineer's recommendation. If you have any questions concerning the process, contact Mark Rath in our program.

Sincerely,

Genny McMath
Water Rights Program
605 773-3352
Genny.mcmath@state.sd.us

File No. FC4-3

WATER RIGHTS PROGRAM -- FILE DOCUMENTATION

NAME & ADDRESS: Hilary Morey, SD GFP

DATE: November 6, 2020

RE: transfer of flood control permit

COMMENTS:

On October 28, 2020, SD GFP filed an ownership change for Flood Control Permit No. FC4.

Upon transferring the permit and notifying the Department the transfer was completed, Hilary indicated the Brandt Lake Improvement Association would also like something in their files to show the permit was transferred.

She indicated the Association did not have a physical mailing address however I could address it to them and email her a copy and she would take care of it.

Genny McMath
Water Rights Program

DENR
SOUTH DAKOTA

DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES
JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3182
denr.sd.gov

November 9, 2020

FC4-3

TO: Brandt Lake Improvement Association

FROM: Genny McMath, DENR Water Rights Program, 523 E Capitol, Pierre SD 57501

SUBJECT: Transfer of Flood Control Permit No. FC4

On October 28, 2020, the SD Department of Game, Fish and Parks filed an ownership change for Flood Control Permit No. FC4.

The ownership change has been completed. FC4 formerly held by the Brandt Lake Improvement Association is now listed in the name of the SD Department of Game, Fish and Parks.

If the Association has any questions or concerns regarding the flood control permit or the ownership change, please contact Mark Rath in our program at 605 773-3352.

Water Rights Program - DANR

File Documentation

No *FC4-3*

Name of Person: *SD GF&P* **County**: *Lake*
Address: *523 E Capitol, Pierre SD*
Date: *07/10/2023*
RE: *New Outlet at Brant Lake*

Comments:
SD GF&P rebuilt the outlet at Lake Brant. This replaces an outlet structure that was enlarged by the Brant Lake Improvement Association. The modified outlet was found to be too wide for what was authorized. The new replacement outlet was built to the design specifications as laid out in FC4-3.

Mark D Rath
Natural Resources Engineer III
SD DANR-Water Rights Program