



# WATER-RIGHT DOCKET

## Badlands National Park

Docket No: 4

### THISTLE DAM

#### State Water Rights Documentation

04-17-1987: letter to nps from natural resources engineer regarding water permit application



## Department of Water & Natural Resources

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

April 17, 1987

Stanley L. Ponce, Acting Chief  
National Park Service  
Water Resources Division  
301 South Howes Street, Room 335  
Fort Collins, Colorado 80521

Dear Mr. Ponce:

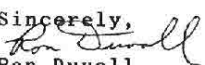
This letter is in response to the water permit application for Thistle dam received on March 23, 1987. The following information is needed to complete the application:

1. The application states that Thistle dam breached in 1982. Pursuant to SDCL 46-5-37, water that remains unused for a period of three years is regarded as unappropriated public water in South Dakota. Therefore, the amount of storage lost due to the 1982 breach cannot be claimed as a vested right due to three years of nonuse. The Park Service has two options:

- a) A vested right claim can be made for the amount of storage remaining after the dam breach and a new application can be made for the additional storage resulting from rebuilding the dam. The applications will be considered as separate applications.
- b) A new application can be made for the total storage resulting from the proposed breach repair.

2. An application fee also needs to be submitted with the application. The fees required under option A are \$15.00 for the vested right claim and \$150.00 for the new application. The fee for option B is \$150.00. The enclosed instruction sheet outlines the fee structure.

The above information is needed before the application can be processed for the July Board meeting. The application fee is considered a part of the application and needs to be received before the application is processed (SDCL 46-2-13 and 46-2-13.2). Therefore, I recommend that, if possible, the fee be sent by some means other than the somewhat lengthy purchase order procedure. Please contact me regarding how the Park Service wants to proceed with this application.

Sincerely,  
  
Ron Duvall  
Natural Resources Engineer  
RD:ms  
enc.

NON IRRIGATION

INSTRUCTIONS FOR APPLICATION FOR A WATER PERMIT AND/OR RIGHT

A completed application for a water permit and/or right must include the following:

1. TWO COMPLETED COPIES OF FORM 2, Application to Appropriate Water.
  2. A Map, no smaller than 8"x11", showing:
    - a) The location of the diversion point (place where water is to be taken from) in relation to a government section corner or quarter corner by direction and distance.
    - b) If diversion is from a reservoir, the location of the high water line and lands under water, with the names of the owner's (if other than the applicant) and the capacity of the reservoir at maximum pool elevation.
    - c) If diversion is from a stream the location and name of the stream.
    - d) The map must be signed by one of the following: Registered Land Surveyor, Registered Professional Engineer or by any other government employee who normally prepares maps as part of his assigned duties (SCS, ASCS, etc.).
  3. If diversion is from a well, dugout or storage dam, two completed copies of Form 2A must be submitted with Form 2. Also provide any supplemental plans or drawing for any storage reservoir. If diversion is from a well, a well log or driller's test log signed by a South Dakota licensed well driller MUST accompany the application. If the well is to be completed into a formation below the Greenhorn an estimate of the depth of the well, proposed construction of the well and formations encountered can be submitted in lieu of a test hole log. When the well is constructed, the drillers log of the completed well must be submitted to this office within 30 days of completion.
  4. According to South Dakota Statutes the following filing fees are required for each application: Amount of water claimed (cfs or gpm) should be actual pump capacity.
    - ✓ First 120 acre feet per year (75 gallons per minute) or portion thereof-----\$150.00
    - Second 120 acre feet per year (75 gallons per minute) or portion thereof----- 75.00
    - Each additional 120 acre feet per year (75 gallons per minute) or portion thereof-- 25.00
    - (120 acre feet per year = 75 gpm continuous use)

\*To appropriate 0.10 cfs (45 gpm) or less, to change a diversion point or add a diversion point (on an existing permit) with no new appropriation of water = \$50.00

The filing fee for a future use permit application is 10% of the calculated fee for the amount of water applied for. If after the seven year review the permit is allowed to remain in effect, another 10% filing fee is required. When an application for part or all of the reserved water under a future use is received the applicable fees must be paid.

The forms, signed map, fees and any other pertinent information for filing a Water Permit Application should be submitted to: Water Rights Division, DWNR  
Joe Foss Building  
Pierre, SD 57501  
(605) 773-3352
  5. Notice of an application must be published in one local county newspaper for two successive weeks with second publication at least 20 days before the Water Management Board Meeting. Publication notice will be sent to the newspaper by Water Rights Division.
- THE COST OF PUBLICATION WILL BE PAID BY THE APPLICANT.
6. Upon completion of the construction of the system and the application of water to beneficial use an inspection will be conducted. The fee for the inspection is \$50.00. After the inspection and payment of the fee a Water License will be issued. The issuance of the Water License is the final action for obtaining a water right.

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

No. \_\_\_\_\_ Hydrologic Unit \_\_\_\_\_  
 Map No. \_\_\_\_\_ Basin \_\_\_\_\_  
 Newspaper \_\_\_\_\_

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

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

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

Type of Application: Check one or more of the following

New ☐ Vested Right ☒ Future Use ☐ Change Use ☐

☐ Amend Permit No. \_\_\_\_\_ with old priority date retained

Change diversion point(s) ☐ Add diversion point(s) ☐ Other ☐ rebuild breached dam

☐ 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 United States of America, National Park Service Phone No. (303)236-8700  
 (Badlands National Monument)

Post Office Address 655 Parfet St., Box 25287, Denver State Co., 80225  
 (Street, RR or Box) Zip Code

2. Amount of water claimed (c.f.s.) 33.2 acre-feet of storage

3. Source of water supply unnamed dry draw tributary of Whitewater Ck. SW $\frac{1}{4}$ SE $\frac{1}{4}$ Sec26T2SR16E

4. Location of point of diversion dam located within Badlands National Monument, SE $\frac{1}{4}$ NE $\frac{1}{4}$ Sec35  
T2SR16E

County Pennington

5. Counties where water will be used Pennington

6. Annual period during which water is to be used January 1--December 31

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 is a claim for a vested right to water stored behind recently breached dam located in Badlands National Monument. The dam will be rebuilt during the summer of 1987. We refer you to the preliminary engineering reports provided with this application.

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

STATE OF COLORADO } ss  
 County of Larimer

I, D. Scott Brown 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 D. Scott Brown

Subscribed and sworn to before me this 19<sup>th</sup> day of March 1987

Mary Anne Otteris  
 Notary Public (or other qualified officer)

My commission expires 2-21-90.

Form 2B

**Affidavit of Water Use**

No. \_\_\_\_\_

(Type or Print in Ink)

Note: This Form is supplemental to Form 2 and is to be used when an affidavit pertaining to construction and water use already constructed is needed, primarily with vested right claims.

**Affidavit Of Construction Of Water Use System  
And Application Of Water To Beneficial Use**

Name of Applicant (Same as Form 2) United States of America, National Park Service, Monument (Badlands National Monument)

Post Office Address 655 Parfet St., Box 25287, Denver Co. 80225  
(Street, RR or Box) (State) (Zip Code)

A. Notice of Appropriation 3/16/87 Date of Posting \_\_\_\_\_

Date of recording \_\_\_\_\_ Recording date \_\_\_\_\_

B. Date of start of construction of water supply system unknown, but pre-1955 Where \_\_\_\_\_ Book \_\_\_\_\_ Page \_\_\_\_\_

C. Date that water was first applied to beneficial use pre-1955

D. Name of owner of original water supply system Mildred D. Kelly

E. Amount of water originally applied to beneficial use 33.2 acre-feet

F. Present Use of Water - Amount of water now being used recreation 33.2 acre-feet

Date that this water was first used unknown, but pre-1955

G. Chronological History of Water Use

Original dam was built sometime in the 1940s. It breached sometime in 1983, and current plans are to rebuild the dam during the summer of 1987. The water was originally used for stockwatering purposes, and then by the National Park Service for recreational purposes. Construction of the dam is to be done by the group Ducks Unlimited with the approval of the National Park Service to provide wild fowl nesting areas for recreational purposes. The dam and reservoir are located entirely within the boundaries of Badlands National Monument. We refer you to the attached photos and sworn statement as evidence of the dam's existence.

Attach to this Form 2B any copies of notices, postings, filings, publications, affidavits, or other records that apply. You may also attach any written statement by you, or by others, that you deem pertinent.

State of ~~Santa Fe~~ Colorado )

County of Larimer ) ss

I, D. Scott Brown the applicant, certify that I have read the foregoing  
(print or type)  
and that the matters therein stated are true.

Signed

D. Scott Brown

Subscribed and sworn to before me March 19, 1987

My commission expires 2-21-90.

Mary Anne Atencio  
Notary Public or other qualified officer

I, the undersigned do hereby certify that I know about the water use system described above, that I have read the foregoing, and that the matters therein stated are true.

(Print name)

19

(Print name)

19

Form 2A

**Supplemental Information**

(type or print in ink)

**1. Well Information - Proposed construction**

- a) Drill Hole Diameter \_\_\_\_\_ Depth \_\_\_\_\_
- b) Casing Type \_\_\_\_\_ Diameter \_\_\_\_\_ Thickness \_\_\_\_\_
- c) Screen Type \_\_\_\_\_ Diameter \_\_\_\_\_ Thickness \_\_\_\_\_
- d) Gravel Pack Thickness \_\_\_\_\_ Length of Gravel Pack \_\_\_\_\_
- e) Depth to Top of Water Bearing Material \_\_\_\_\_
- f) Depth of Water (ground surface to water level) \_\_\_\_\_
- g) Distance to nearest existing domestic well: \_\_\_\_\_
- On applicants property \_\_\_\_\_ On property owned by others \_\_\_\_\_

**2. Dugout Information Estimates**

- a) Surface Dimensions \_\_\_\_\_ Depth \_\_\_\_\_
- b) Depth to water (ground surface to water level) \_\_\_\_\_

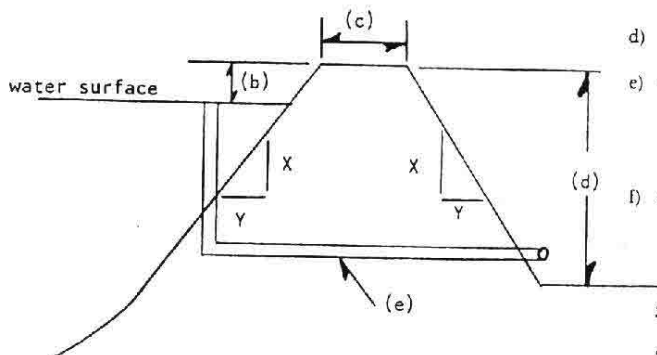
**3. Water Storage Dams**

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

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

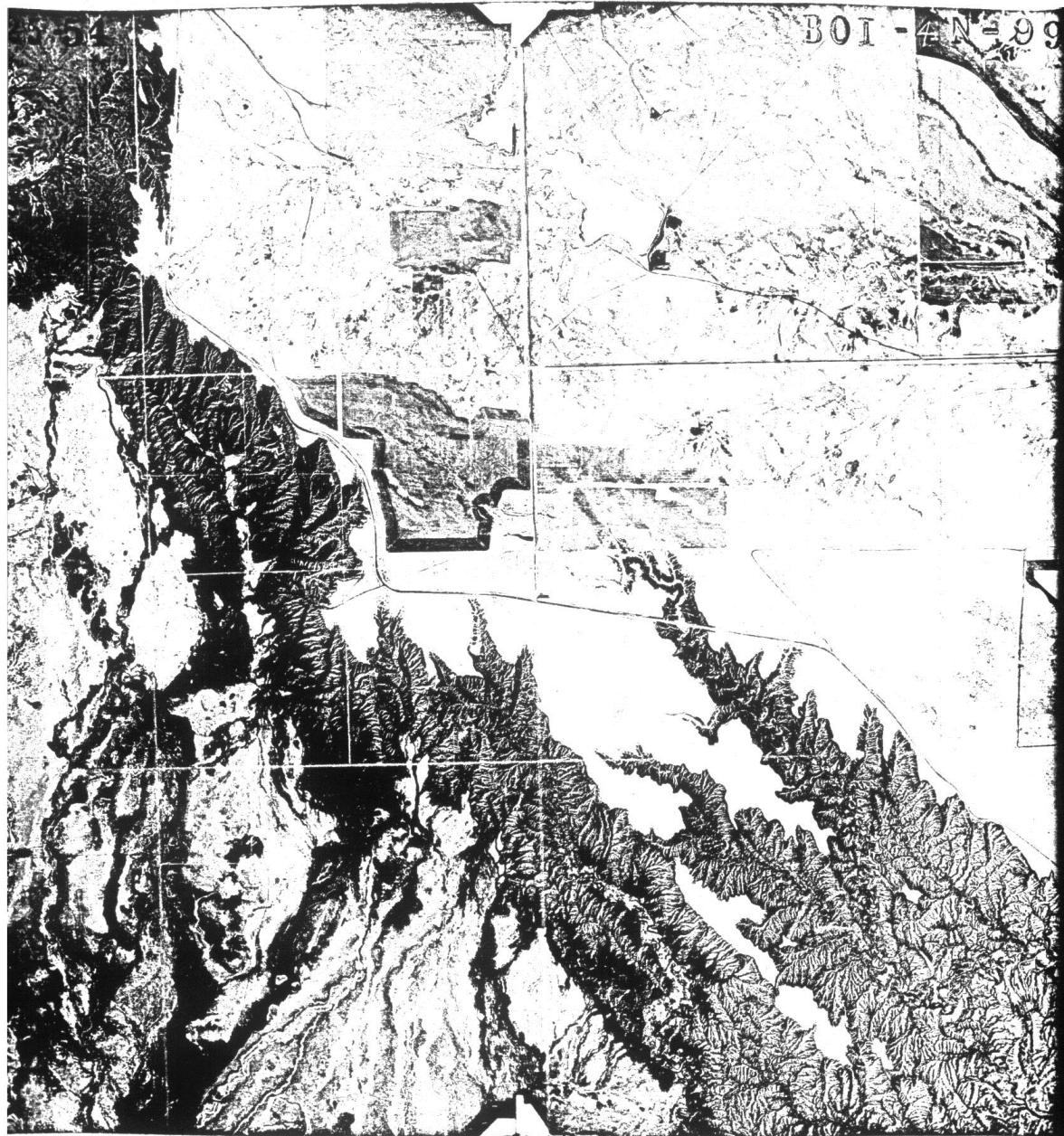
Bell, Galyardt and Associates  
Box 7197, Rapid City, S.D., 57709

- b) Freeboard 4.0 ft.
- c) Crest Width 10 ft.  
 Crest Length 160 ft.
- d) Height 11 ft.
- e) Outlet Dimensions:  
 Pipe diameter none  
 Spillway width 60 ft.
- f) X & Y Slope  
 Upstream 3/1  
 Downstream 3/1



Surface Area of Impoundment 10.1 acres  
 Storage 33.2 acre feet  
 Drainage area above dam approx. 1 sq. mile

Scott Brown  
 Signature of Applicant



I hereby affirm that I have personal knowledge of that portion of Badlands National Park known as "Thistle Dam", located in the NE $\frac{1}{4}$  of Section 35, Township 2 South, Range 16 East, Pennington County, South Dakota.

To the best of my knowledge, I do attest that on or about January of 1981, I observed this reservoir to be approximately 12' high, 12' wide, and 300' long, containing about 10 surface acres. At that time, there was no breach evident in the dam.

Signed:

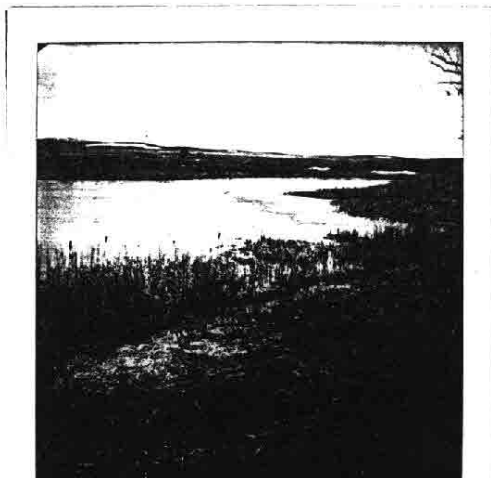
Gary M. Carter  
Gary M. Carter  
Supervisory Park Ranger

3/13/87  
Date

Witnessed:

Susan L. Consolo  
Susan L. Consolo  
Resource Management Specialist

March 13, 1987  
Date



View of Thistle Dam, looking  
North from base of embankment



Looking East across dam to earthen  
embankment, overgrown with trees



Thistle Dam and current breach  
All photos taken 3/13/87 by SLConsolo



United States Department of the Interior

NATIONAL PARK SERVICE

BADLANDS NATIONAL PARK

P.O. BOX 6

INTERIOR, SOUTH DAKOTA 57750

605/433-6361

IN REPLY REFER TO:

L7425

February 11, 1987

Memorandum

To: Chief, Water Resources Branch, WASO

Attention: Scott Brown

From: Superintendent, Badlands National Park

Subject: Thistle Dam Water Rights

Scott, we appreciate your assistance on water rights and state approval for rehabilitating Thistle Dam.

Enclosed is a copy of our agreement with Duck's Unlimited. I have also enclosed a copy of an aerial photo taken 7-25-54, showing Thistle Dam. Hopefully, this will be adequate information to acquire a pre-1955 claim. We can provide the photo's upon request. To the best of our knowledge the dam was originally built as a WPA or CCC project. From the size of the impoundment in the photo, we would be increasing it's size very little. The engineering work we receive from Duck's Unlimited should describe that.

Thanks for your assistance.

Donald A. Falvey

Enclosures

AGREEMENT NO: MU 1300-7-8001

MEMORANDUM OF UNDERSTANDING

Between

USDI, NATIONAL PARK SERVICE

and

DUCKS UNLIMITED, INC.

Authorities: Fish and Wildlife Coordination Act, 16 U.S.C. §661; National Park Service Act 16 U.S.C. §6.

I. INTRODUCTION AND PURPOSE

Ducks Unlimited, Inc. (DU), a non-profit corporation, and the National Park Service, Rocky Mountain Region, a Federal agency, have either responsibilities or interests in the management of our Nation's wetlands and the wildlife resources dependent on wetland habitats. The parties agree that wetland habitats in the United States need to be preserved and properly managed to optimize wildlife habitat conditions and to meet the growing public concerns for development and preservation of wetlands.

The purpose of this MOU is to provide a foundation for cooperative development of selected wetlands administered by the NPS in order to maintain and increase waterfowl populations for the best interests of the people of the United States.

II. SCOPE OF THE AGREEMENT

The parties agree as follows:

A. Ducks Unlimited, Inc. and the National Park Service mutually agree:

1. That each and every provision of the Memorandum of Understanding is subject to the bylaws of DU and the laws of the United States.
2. To identify and develop project proposals, including description, objectives, costs, anticipated outputs, etc., for waterfowl habitat improvement projects on lands administered by the Federal agency.
3. To review annually the development of lands identified under this program, progress of the program, and plan future program direction as appropriate.
4. Nothing herein shall be construed as obligating the Federal agency to expend, or as involving the United States in any contract or other obligation for the future payment of, money in excess of appropriations authorized by law and administratively allocated for these projects.

5. No member of, or Delegate to, Congress shall be admitted to any share or part of this agreement, or to any benefit that may arise therefrom; but this provision shall not be construed to extend to this agreement if made with a corporation for its general benefit.
  6. All improvements, to the extent constructed on Federal agency lands shall be and will remain the property of the United States.
  7. The development of projects identified under this program will be detailed under, and subject to, a site specific development agreement entered into by the appropriate agency and DU.
  8. Either party may assume the responsibility for the design and/or construction phases of each project and further agree that design and construction will meet the appropriate local, state, Federal agency and/or DU standards.
  9. Either DU or the involved Federal agency has the option to accept as complete the project as defined in the Site Specific Development Agreement.
  10. To place management emphasis on migratory waterfowl for those wetland habitats which have been maintained or enhanced by DU.
  11. To cooperate in the recognition of each party's participation in this program and in specific projects.
  12. Each party agrees that it will be responsible for its own acts and the results thereof and shall not be responsible for the acts of the other parties and the results thereof. Each party therefore agrees that it will assume all risk and liability to itself, its agents or employees, for any injury to persons or property resulting in any manner from the conduct of its own operations, and the operations of its agents or employees, under this Agreement, and for any loss, cost, damage, or expense resulting at any time from any and all causes due to any act or acts, negligence, or the failure to exercise proper precautions, of or by itself or its own agents or its own employees, while occupying or visiting the premises under and pursuant to the Agreement. The Government's liability shall be governed by the provisions of the Federal Tort Claims Act (28 U.S.C. 2671-80 (1976)).
- B. The National Park Service Agrees:
1. To make lands available for the furtherance of this program, including the right of access for construction, maintenance and inspection of approved projects, subject to applicable Federal laws, regulations and comprehensive plans for the affected area, if any, and subject to approval by the head of the particular Federal agency involved, or his designated representative.
  2. To coordinate or undertake joint planning where the respective Federal agency's land is contiguous, and where issues, concerns, use and development opportunities are similar.

3. To obtain or assist in obtaining all permits and clearances required by other Federal agencies or state and local governments.
4. To provide input into the appropriate site specific development agreement.
5. To provide DU with appropriate background information including, but not limited to, management plans and design specifications, when required.
6. To assume operation and maintenance and other management costs and responsibilities upon completion of the development project as stated in the site specific development agreement.
7. To provide appropriate site recognition of DU involvement.

C. Ducks Unlimited Agrees:

1. To annually review Federal agency proposals for migratory waterfowl habitat maintenance and enhancement and to make the final determination on which proposed projects, if any, will be funded by DU.
2. To cooperate by provision of reasonable funds and manpower for the furtherance of this program.
3. To initiate the site specific development agreement.
4. To contribute operation, maintenance and rehabilitation funds as agreed to in the site specific development agreement.

III. EXECUTION, MODIFICATION, AND DURATION OF AGREEMENT

This agreement will become effective upon the date subscribed by the last signatory, and shall continue in force until terminated by either party upon 30 days written notice.

Amendment to this basic Memorandum of Understanding may be proposed by any party and shall become effective upon approval by all parties.

DUCKS UNLIMITED, INC.

Date 10/2/86

  
Executive Vice-President

UNITED STATES DEPARTMENT OF INTERIOR

Date 9/9/86

Acting

  
Regional Director, Rocky Mountain Region

Photo taken 7-25-54  
Dam

Number  
BOI-4N-99

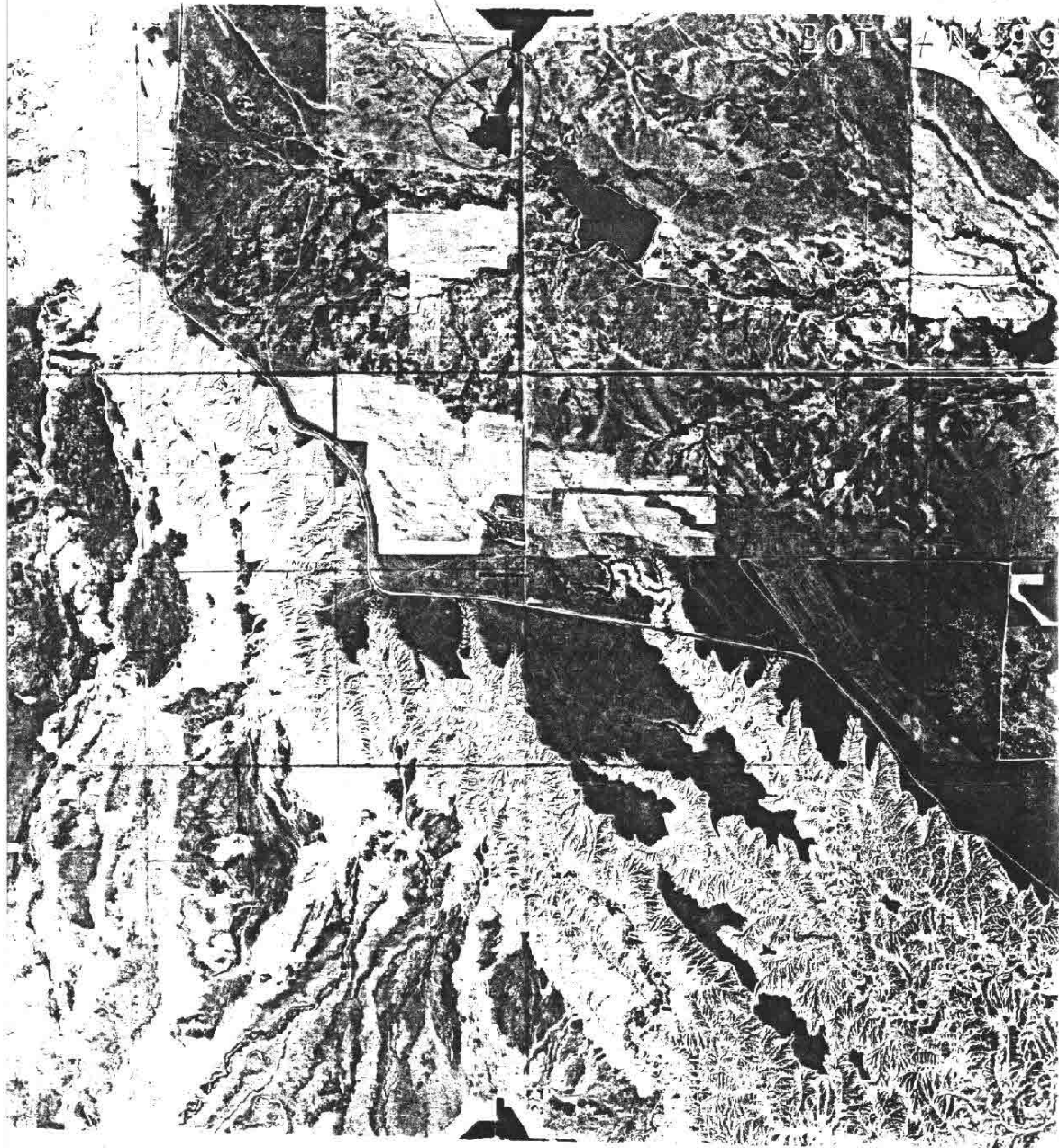
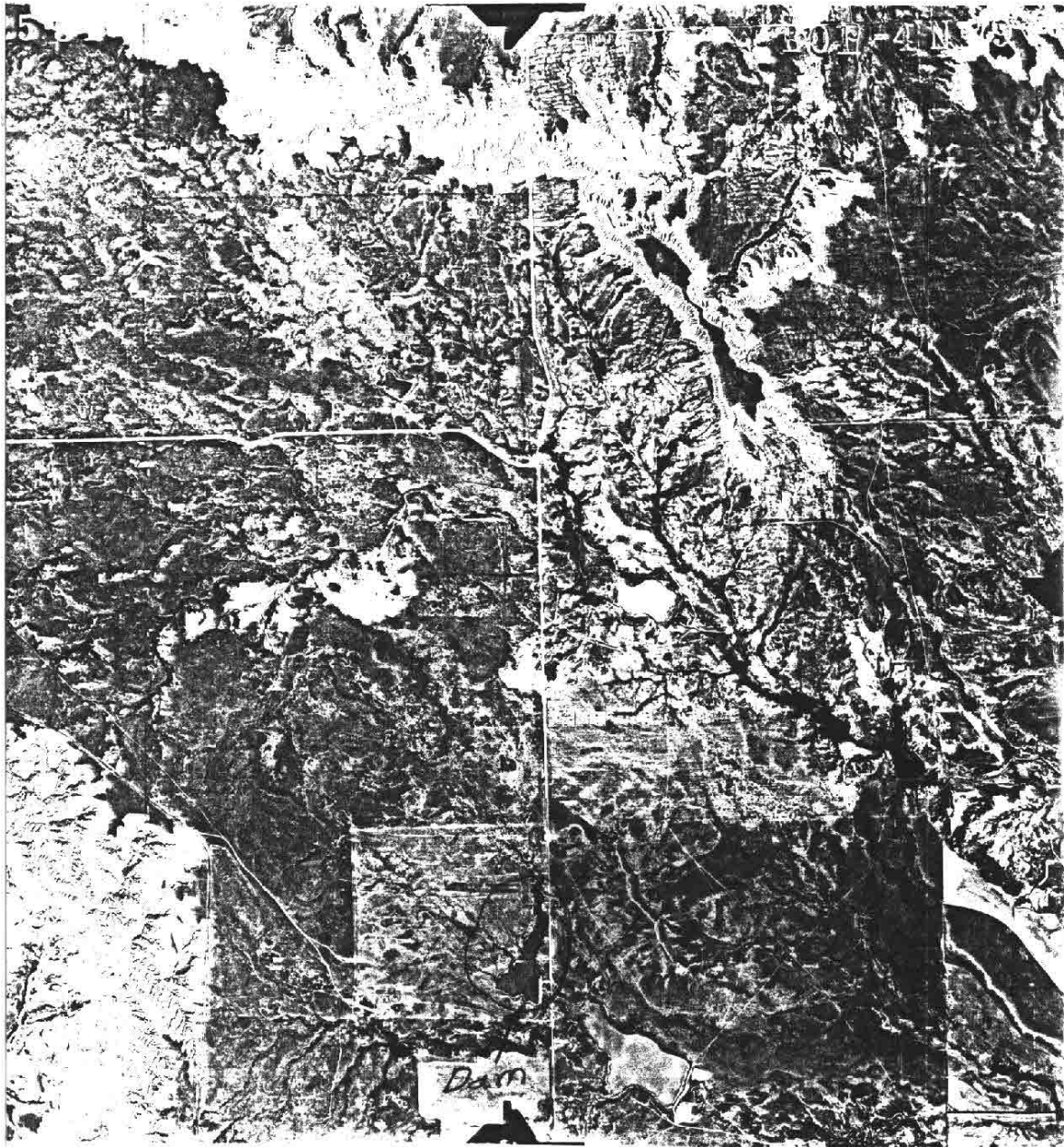


Photo taken 7-25-54

Number  
BOI-4N-97



Other Supporting Information

March 20, 1987

LS4 (479)  
RNR/BADL Water Rights

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

RE: Water rights at Thistle Dam, Badlands National Monument

Dear Mr. Hatch:

Enclosed is an application for a vested water right we wish to file with the South Dakota Water Management Board. The water is to be stored behind Thistle Dam within Badlands National Monument. The original dam, built sometime during the 1940's, breached in 1982. Although the dam has held some water since 1982, Ducks Unlimited, through an agreement with the National Park Service, will refurbish the dam during the summer of 1987 to restore its storage capacity and to provide a water fowl nesting area.

We trust that the permit application forms we have submitted will satisfy the requirements of the State both for water rights and for notification of dam rehabilitation. If further information is needed, please contact us at (303) 221-5341.

Sincerely,

Stanley L. Ponce, Acting Chief  
Water Resources Division

Enclosures

*cc Supr/BADL*

PNP:WRusinek:cs:3/19/87:221-5341:20319wil.mm2



## United States Department of the Interior

NATIONAL PARK SERVICE  
BADLANDS NATIONAL PARK  
P.O. BOX 6  
INTERIOR, SOUTH DAKOTA 57750  
605/433-5361

IN REPLY REFER TO:

L7425 (BADL-MR)

March 13, 1987

### Memorandum

To: Water Resources Division  
Attention: Scott Brown

From: Superintendent, Badlands National Park

Subject: Water rights for Thistle Dam project

In regard to your phone conversation with Sue Consolo on March 12, I am sending the following additional information which you requested:

1. Original of air photo #BOI-4N-99, dated 7-25-54;
2. A sworn statement from Park Ranger Gary Carter as to the presence and size of the dam prior to its being breached; and
3. Polaroid photographs of the embankment and breach, taken 3-13-87, and a copy of the dam safety inspection report, dated 7-22-86.

*copies  
in  
package  
presented  
to S.D.*

Using the above-mentioned air photo at 1:20,000 and a dot grid, the approximate area of the pond in 1954 was 10.5 acres. The dam does not show up on air photos dated 1938, but we do not know the year in which it was constructed. According to park land status records, Tract 02-125 was acquired by Warranty Deed (Recorded in Book 117, p.591-2) from Mildred D. Kelly on December 28, 1957. The deed transferred 160 acres, the NE $\frac{1}{4}$  of Section 35, Township 2 South, Range 16 East, "together with all improvements, fixtures...and all water and water rights and privileges and ditches and ditch rights and rights-of-way therefore appurtenant..." This is listed as Badlands deed No. 183.

Please let us know if there is anything more needed to submit an application for water rights to the State of South Dakota. I appreciate your assistance up to this point.

*Donald A. Falvey*

Donald A. Falvey

Enclosures

ROCKY MOUNTAIN REGION  
DAM SAFETY  
INFORMAL INSPECTION REPORT

Fill in all blanks, if unknown - enter unknown; or not applicable - N/A; if none - enter none.

1. Park: Badlands 2. Inspection Date: 7/22/86
3. Name of Dam: Thistle 4. Owner: NPS
5. Dam Location: T2S. R11E. SE 1/4. NE 1/4. S35 102° 43' 50'
6. Type of Dam: (circle) EARTHFILL, ROCKFILL, CONCRETE, OTHER \_\_\_\_\_
7. Purpose of Dam: IRRIGATION, MUNICIPAL, (circle) OTHER, (specify) wildlife
8. Height of Dam: 14 9. Width: 12' 10. Length: 310'
11. Hazard Classification: low 12. Maximum Storage Capacity: 15 acre
13. Waterlevel - Feet Below Principal Spillway 114 Estimate Spillway Width \_\_\_\_\_ (Circle Which One) or Emergency Spillway 112 Estimate Freeboard (Spillway to Top of Dam): 112
14. GENERAL
  - A. Inspection Personnel: GLASS
  - B. Contacted (owner, forest ranger, etc.): \_\_\_\_\_  
Address: \_\_\_\_\_
  - C. Land Use: ☒ Public (specify) National Park  
☐ Private (specify) \_\_\_\_\_  
☐ Other (specify) \_\_\_\_\_
  - D. Downstream Development
    - ☐ Residential—Name of Town: \_\_\_\_\_ Distance: \_\_\_\_\_ miles
    - ☐ Industrial—commercial Distance \_\_\_\_\_ miles
    - ☐ Agricultural Distance \_\_\_\_\_ miles
    - ☒ Undeveloped
    - ☐ Other: \_\_\_\_\_

E. Comments: \_\_\_\_\_

\_\_\_\_\_

15. EMBANKMENTS & ABUTMENTS - Photo No. 1, 2 & 3

A. Type: ☒ Earthfill: ☐ Zoned ☒ Homogeneous  
☐ Rockfill  
☐ Concrete: ☐ Gravity ☐ Arch  
☐ Other: \_\_\_\_\_

B. Integrity (condition of concrete structures, debris, erosion, etc.): \_\_\_\_\_

Embankment breeched

\_\_\_\_\_

C. Vegetation Cover & Rodent Action: Grass & tree covered

\_\_\_\_\_

D. Seepage: Breeched

\_\_\_\_\_

E. Comments: Embankment breeched 1981; cause

is believed to be tree roots

\_\_\_\_\_

16. SPILLWAY(S) - Photo No. 4

A. ☒ Open Channel  
☐ Morning Glory  
☐ Other: \_\_\_\_\_

B. Dimensions: Width: 25' Depth (freeboard): N/A

C. Control: ☒ Uncontrolled

☐ Controlled: ☐ Flashboards ☐ Gates ☐ Other: \_\_\_\_\_

Freeboard Over Control: \_\_\_\_\_

Machinery: \_\_\_\_\_

D. Integrity (condition of concrete structures, debris, erosion, etc.): \_\_\_\_\_

Spillway - NO debris or erosion

E. Inlet & Outlet Channels (erosion, slope protection, siltation, stilling basin, trash rack, etc.): \_\_\_\_\_

Slope protection good. No erosion; very little siltation; NO trash rack

F. Comments: \_\_\_\_\_

17. OUTLET WORKS - Photo No. N/A

A. Intake & Outlet (condition of concrete structures, trash rack, siltation, debris, etc.): \_\_\_\_\_

B. Valves & Gates: ☐ Inlet ☐ Outlet ☐ Wet Well ☐ Dry Well ☐ Other: \_\_\_\_\_ Operating Condition: \_\_\_\_\_

Accessibility (at high spillway flow, etc.): \_\_\_\_\_

C. Conduits: ☐ Smooth Metal Pipe ☐ Corrosive Metal Pipe ☐ Concrete Pipe Diameter \_\_\_\_\_

Tunnels: ( ) Lined ( ) Unlined

D. Miscellaneous (gages, instrumentation, etc.):

E. Comments:

18. RESERVOIR - Photo No. 4

Comments (debris, sedimentation, shoreline stability, upstream conditions, etc.):

*Even though embankment is breached Reservoir  
still holds some water*

## 19. MISCELLANEOUS QUESTIONS

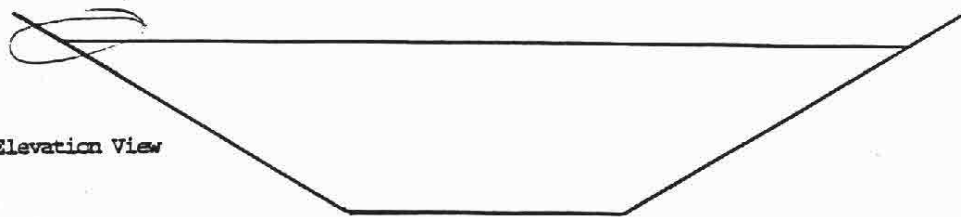
Directions: Mark an "X" in the Yes or No column and circle the word or phrase which applies.

|                                                                                                                                  | Yes           | No |
|----------------------------------------------------------------------------------------------------------------------------------|---------------|----|
| A. Are the roads to the dam adequate to allow ACCESS BY EMERGENCY EQUIPMENT and TRAVEL ACROSS THE DAM (i.e. TRUCKS, AMBULANCES?) | X             |    |
| B. Is there DEBRIS, TREES, or BRUSH on the upstream slope that prevent seeing the entire surface of the slope?                   | X             |    |
| C. Are there TREES or BRUSH on the CREST or DOWNSTREAM SLOPE that prevent seeing the entire surface?                             | X             |    |
| D. Are there CRACKS, SLIDES, SLUMPS, BOILS, SETTLEMENT or OTHER on the UPSTREAM SLOPE, CREST, or DOWNSTREAM SLOPE?               | X             |    |
| E. Are there RODENT HOLES or ERODED GULLIES on the UPSTREAM or DOWNSTREAM SLOPE?                                                 |               | X  |
| F. Is the upstream slope eroded from wave action?                                                                                |               | X  |
| G. Is there FLOWING WATER or LARGE BOGGY SPOTS at the toe of the dam?                                                            | X             |    |
| H. Are there FLOWS OF WATER or WET SPOTS above the toe of the dam?                                                               | X             |    |
| I. Is the riprap DISPLACED or BROKEN DOWN or MISSING?                                                                            | N/A           |    |
| J. Are there toe drains?                                                                                                         |               | X  |
| K. Is the water from the TOE DRAINS or LEAKS found to be MUDDY OR SANDY?                                                         |               | X  |
| L. Are any of the concrete portions excessively CRACKED or SPALLING?                                                             | N/A           |    |
| M. Is the OUTLET CONTROL or GATE found to be STUCK, BROKEN, or EXCESSIVELY CORRODED?                                             | N/A           |    |
| N. Is the outlet control easy to get to?                                                                                         | N/A           |    |
| O. Is released water UNDERCUTTING THE OUTLET OR ERODING THE EMBANKMENT?                                                          | X             |    |
| P. Does the spillway channel show significant EROSION, BACK-CUTTING or DETERIORATION?                                            |               | X  |
| Q. Is the spillway obstructed with FLASHBOARDS, TREES, DEBRIS, BRUSH or OTHER?                                                   |               | X  |
| R. Is there evidence that the dam has been overtopped?                                                                           |               | X  |
| S. Are spillway WALLS, FLOOR, CONTROL SECTION, and ENERGY DISSIPATOR IN POOR CONDITION?                                          | N/A           |    |
| T. Is the outlet pipe BLOCKED, or EXCESSIVELY CORRODED or OTHER?                                                                 | N/A           |    |
| U. Is the reservoir usually full YEAR ROUND, OVER ONE-HALF OF YEAR or LESS THAN ONE-HALF YEAR?                                   | LESS THAN 1/2 |    |
| V. Should this dam be promptly inspected by a field engineer?                                                                    |               | X  |
| W. Are photographs to be forwarded to Headquarters Office?                                                                       | X             |    |

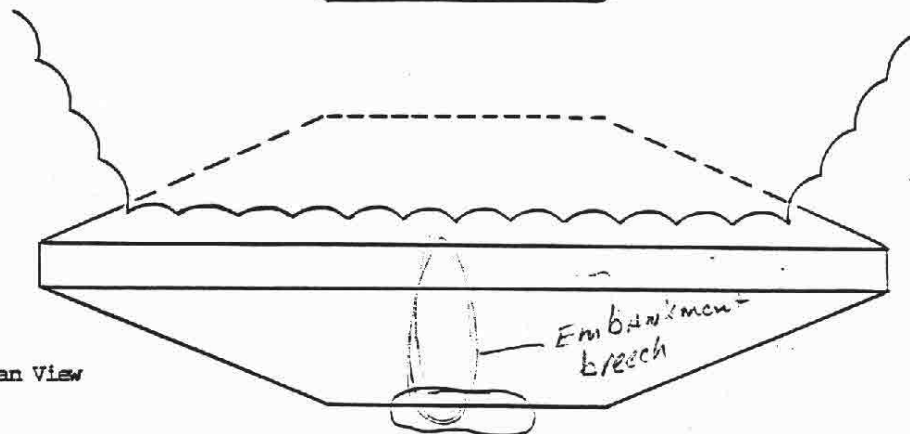


APPENDIX A  
TO INFORMAL INSPECTION REPORT  
SCHEMATIC OF DAM DEFICIENCIES

Elevation View



Plan View



LOCATE: outlet, valve or gate, spillway

SEEPAGE:

| Location | amp | sediment | comments | Photo No. |
|----------|-----|----------|----------|-----------|
| <u>1</u> |     |          |          |           |
| <u>2</u> |     |          |          |           |
| <u>3</u> |     |          |          |           |
|          |     |          |          |           |

SLUMPS & SINK HOLES:

| Location | comments | Photo No. |
|----------|----------|-----------|
| A        |          |           |
| B        |          |           |
| C        |          |           |
|          |          |           |

COMMENTS:

Work mtd to done FY 87-88 to repair  
breached embankment, area right of spillway  
work

APPENDIX B  
TO INFORMAL INSPECTION REPORT

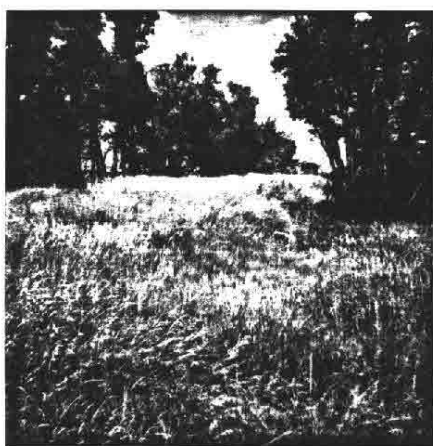
PHOTOGRAPHS



Thistle Dam 7-22-86  
Breeched dike (1)



Thistle Dam 7-22-86  
breeched dike (2)



Thistle Dam 7-22-86  
embankment (3)



Thistle Dam 7-22-86  
Reservoir (4)

DUCKS UNLIMITED

PROJECT

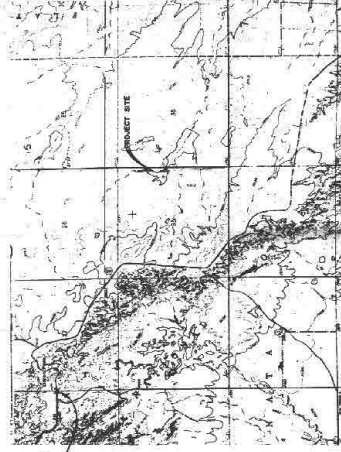
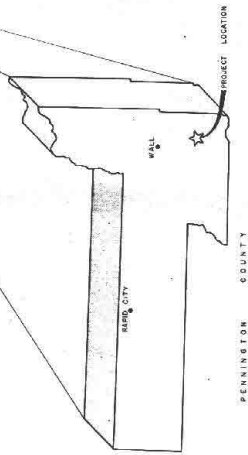
THISTLE DAM  
BADLANDS NATIONAL PARK

SECTION 35, TOWNSHIP 2 SOUTH, RANGE 15 EAST, B.M.M.  
PENNINGTON COUNTY, SOUTH DAKOTA

IN COOPERATION WITH  
NATIONAL PARK SERVICE

PLAN INDEX

1. TITLE SHEET
2. GRADING PLAN & SITE LAYOUT
3. EMBANKMENT CROSS SECTIONS
4. STOPLOG CONTROL STRUCTURE SECTION & DETAILS
5. DAM EMBANKMENT PROFILE
6. DAM EMBANKMENT CROSS SECTIONS
7. DAM EMBANKMENT CROSS SECTIONS
8. EMERGENCY SPILLWAY CROSS SECTIONS



2.5 MILES WEST  
TO WALL

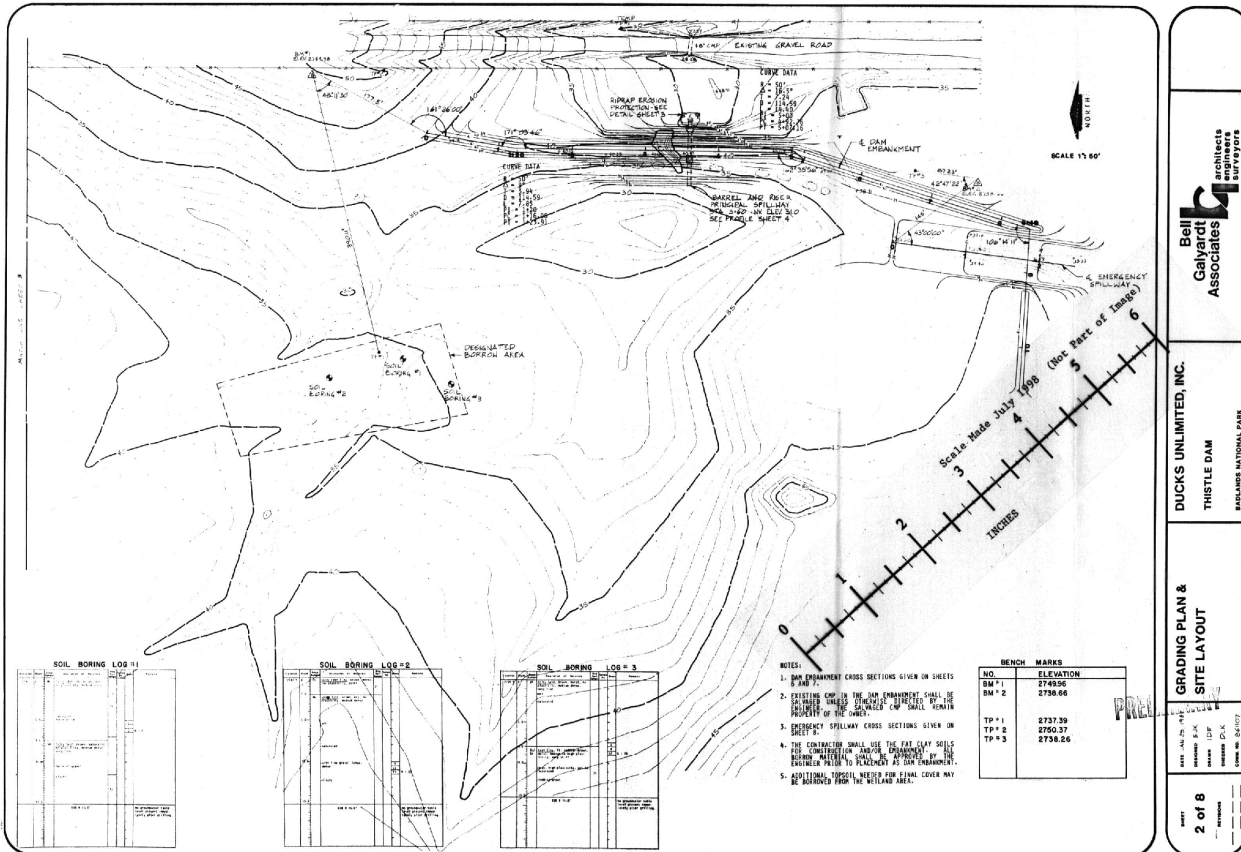
SURVEY BY: R. L. GILBERT & ASSOC.  
PLANS BY: R. L. GILBERT & ASSOC.  
R. L. GILBERT & ASSOC.  
RAPID CITY, S.D.

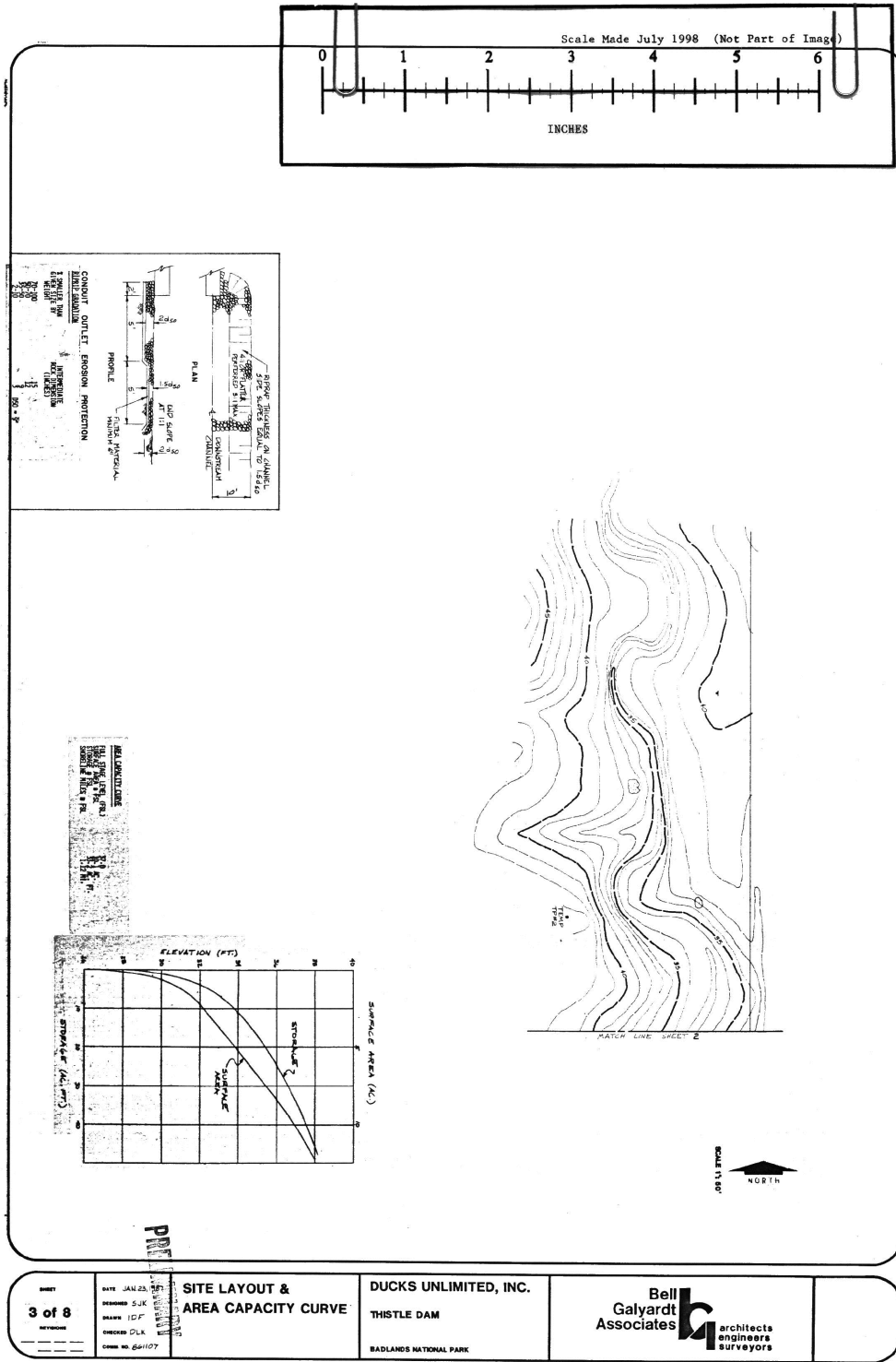


THISTLE DAM

TITLE SHEET

| NO. | DATE | BY | CHKD. | DATE |
|-----|------|----|-------|------|
| 1   | 1987 |    |       |      |
| 2   | 1987 |    |       |      |
| 3   | 1987 |    |       |      |
| 4   | 1987 |    |       |      |
| 5   | 1987 |    |       |      |
| 6   | 1987 |    |       |      |
| 7   | 1987 |    |       |      |
| 8   | 1987 |    |       |      |
| 9   | 1987 |    |       |      |
| 10  | 1987 |    |       |      |







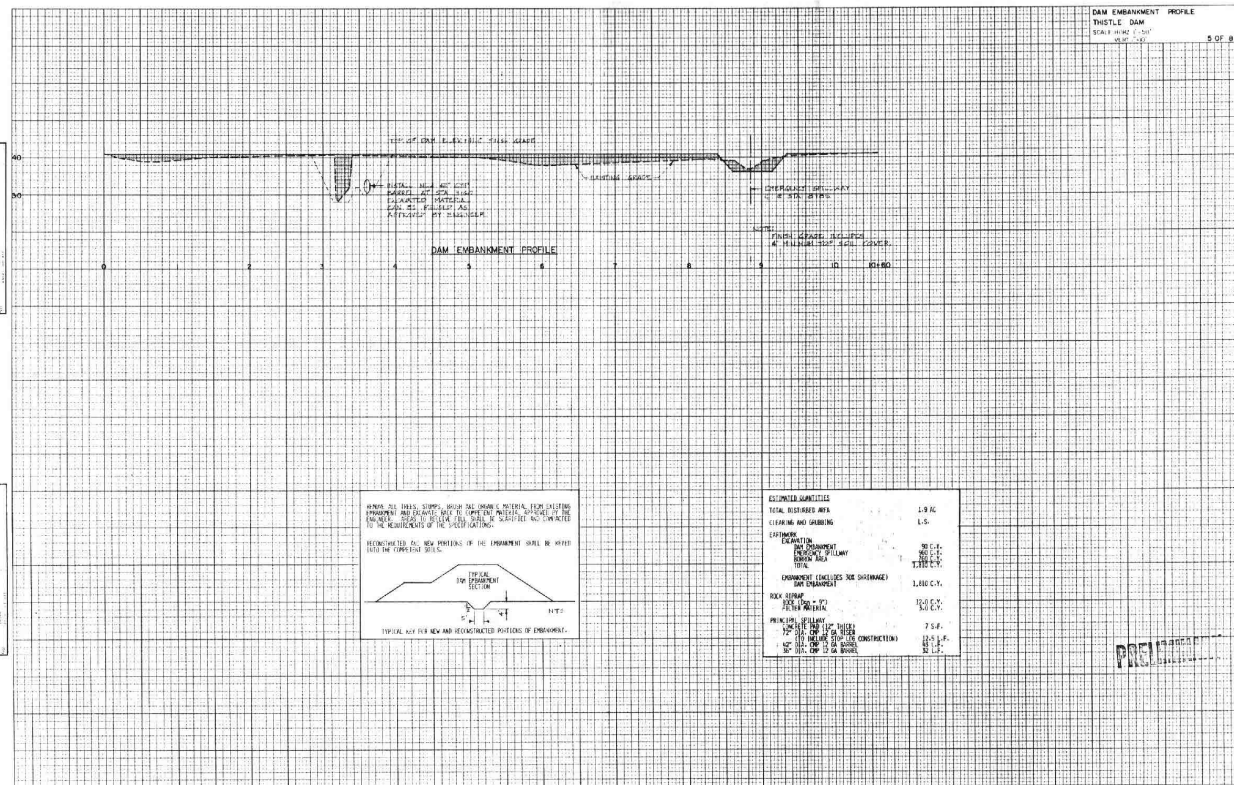
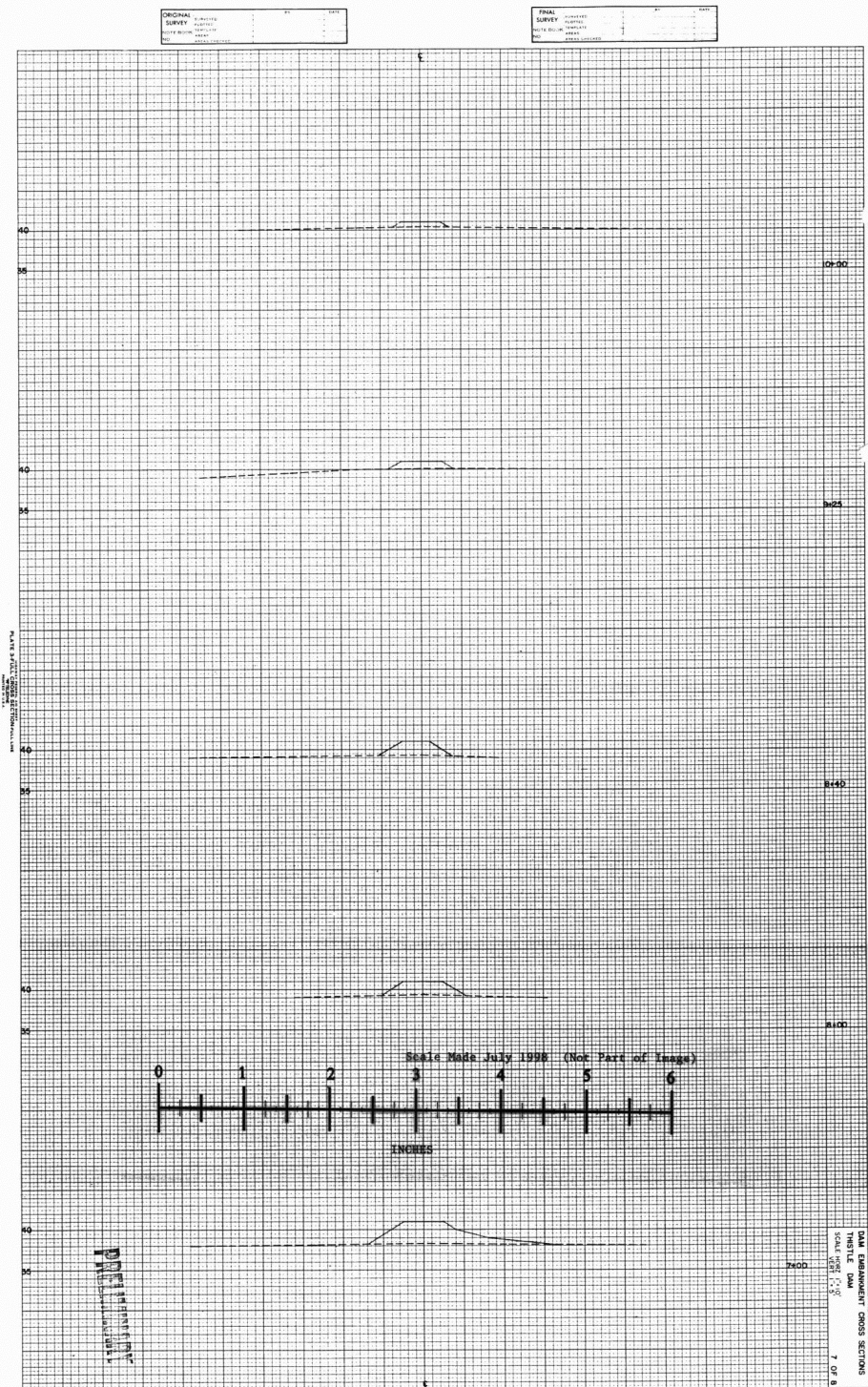
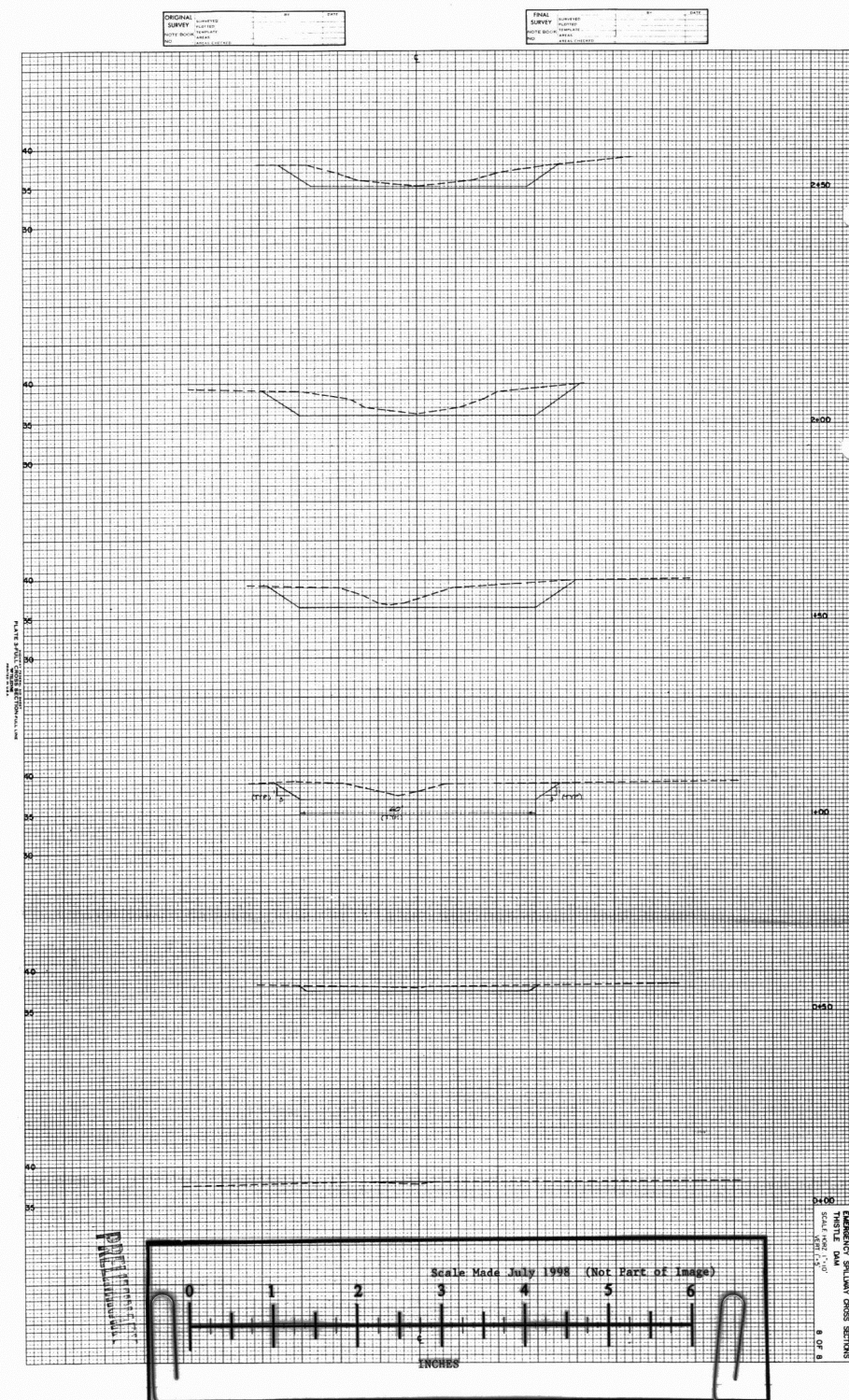


PLATE 3-FULL CROSS SECTION/FULL LINE







### Docket Information

Number of Documents in Docket 33

Documents Dated from 7/25/1954 to 6/15/1987

Docket Compiled: 6/13/2016