

Considered: _____

WATER PERMIT NO. 5432-3

MAP No. same 303 236-5321

Name of Applicant US Fish & Wildlife Service

Post Office Address PO Box 25486, DFC, Denver CO 80225

Amount of Water Claimed 125.1 acre-feet Total Acres NA

Source of Water Supply tributary

Water to be used for FWP County Kingsbury

About _____ miles _____ of adjacent to Wetland

PROOF OF PUBLICATION: Received _____ Not Received _____

APPLICATION: Approved _____ Subject to _____

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

PRIORITY _____ Date Received Feb. 27, 1990 Fee \$225⁰⁰ Remarks Fee has not yet been rec'd

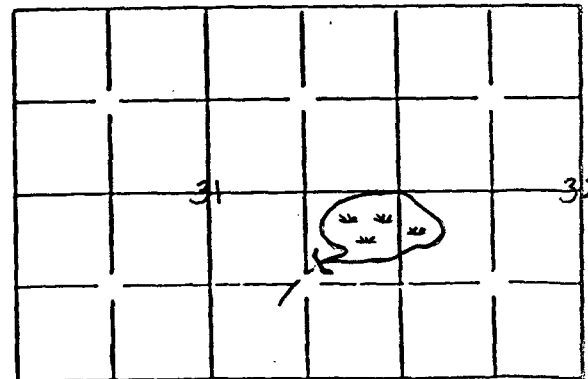
Corrected Application Received _____ Period of Annual Use Jan 1 - Dec 31

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

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

Diversion Point dam: NE $\frac{1}{4}$ SE $\frac{1}{4}$ section 31 - T111N-R53W

Land to be Irrigated impoundment is located in the NE $\frac{1}{4}$ SE $\frac{1}{4}$ section 31; NW $\frac{1}{4}$ SW $\frac{1}{4}$ section 32; all in T111N-R53W



Well Log: Driller NA Licensed YES _____ NO _____

Depth of Well _____ REMARKS _____

Type of Map topo PREPARED BY William A. Godby Reviewed and the Number assigned on April 3, 1990 By Ron Duvall

No. 5432-3 Hydrologic Unit 10170103
 Map No. _____ Basin Vermillion River
 Newspaper Arlington Sun, Box 370, (Wed)
57212

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 retainedChange diversion point(s) ☐ Add diversion point(s) ☐ Other ☐ _____☐ Application to: Change diversion point(s) ☐ Add diversion point(s) ☐ on Permit No. _____☐ Construction to use water reserved by Future Use Permit No. _____

United States of America

1. Name of Applicant Fish and Wildlife Service Phone No. (303) 236-5321Post Office Address P.O. Box 25486, Denver Federal Center, Denver State Colorado 80225
(Street, RR or Box) Zip Code2. Amount of water claimed (c.f.s) 125.1 acre-feet storage plus 65 acre-feet seasonal use to
maintain water level at 1703.5 feet msl3. Source of water supply Unnamed tributaries of Ole Lake, tributary to Lake Preston4. Location of point of diversion SW1/4 NE1/4 SE1/4 Section 31 T11N R53WCounty Kingsbury5. Counties where water will be used Kingsbury6. 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)

The Fish and Wildlife Service has a wildlife extension agreement and a perpetual wetlands easement for lands to be inundated. Structure will raise water level 1-2 feet above the average natural level before lake was drained.

Engineering drawings are attached.

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~~ COLORADO
 County of Jefferson ss

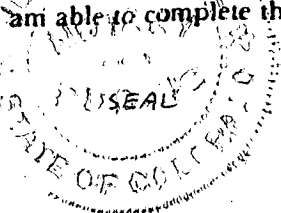
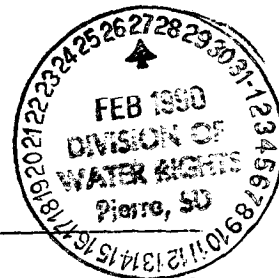
I, John L. Spinks, Jr. the applicant, certify that I have read the foregoing application, have examined the attached map and that the matters therein stated are true and that I intend, and am able to complete the necessary construction.

Signed

DEPUTY REGIONAL DIRECTOR

Subscribed and sworn to before me this 16th day of February, 1990my commission expires 11-25-92

Notary Public (or other qualified officer)



WATER PERMIT

The Water Management Board hereby approves Water Permit Application No. _____

(Applicant)

(Post Office Address)

(State)

(Zip Code)

With the following qualifications.

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

**SOUTH DAKOTA
WATER PERMIT No. 5432-3**

Date of first receipt of application February 27, 1990.

Date of return to applicant for correction, amendments or changes required March 27, 1990.

Date of receipt of corrected application March 30, 1990.

The Water Management Board approved Water Permit Application No. 5432-3 on May 24, 1990 for U.S. Fish & Wildlife Service, P.O. Box 25486, DFC, Denver, CO 80225 authorizing the construction of the water use system and the placing of water to beneficial use subject to the following limitations, conditions and qualifications:

1. Water Permit No. 5432-3 authorizes impoundment of 125.1 acre feet of water with additional fills up to 65 acre feet annually by constructing a dam in the Ole Lake Waterfowl Production Area. The dam site is to be located in the NE1/4 SE1/4 Section 31 and the impoundment area is to be located primarily in the NE1/4 SE1/4 Section 31; NW1/4 SW1/4 Section 32; all in T111N-R53W. Water is to be stored annually to an elevation of 1703.5 feet mean sea level.
2. The water appropriated shall be used for the purpose of providing habitat for fish and wildlife production and may not exceed the amount of water needed for beneficial use for fish and wildlife purposes.
3. The water is to be used during the following described annual period: January 1 - December 31.
4. The date from which applicant may claim right is February 27, 1990.
5. One-fifth of the construction is to be completed on or before November 24, 1992.
6. All construction is to be completed on or before May 24, 1995.
7. Water is to be put to beneficial use on or before May 24, 1999.
8. Water rights obtained in compliance with the laws of the State of South Dakota may not be unlawfully impaired by this appropriation.

WATER MANAGEMENT BOARD

By: 
Chief Engineer, Water Rights Division
Department of Water and Natural Resources

JUN 11 1990
(date)

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) _____

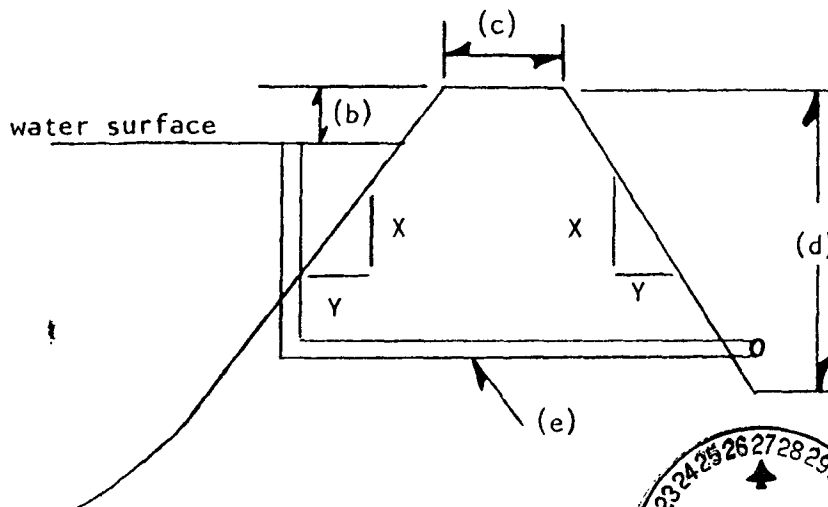
3. Water Storage Dams

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

Ducks Unlimited
6115 East Main
Bismarck, North Dakota 58501

- b) Freeboard 3 feet
- c) Crest Width 12 feet
 Crest Length 296 feet
- d) Height 7.5 feet
- e) Outlet Dimensions:
 Pipe diameter 3' stoplog struct
 Spillway width 20 feet
- f) X & Y Slope
 Upstream 1:3
 Downstream 1:3
- Surface Area of Impoundment 33.4



Storage 125.1 acre feet
 1703.5 feet msl
 Drainage area above dam 590 acres

Signature of Applicant

REGIONAL DIRECTOR





United States Department of the Interior
FISH AND WILDLIFE SERVICE



IN REPLY REFER TO:

BA/EN
WR SD
Mail Stop 60190

MAILING ADDRESS:
Post Office Box 25486
Denver Federal Center
Denver, Colorado 80225

STREET LOCATION:
134 Union Blvd.
Lakewood, Colorado 80228

FEB 16 1990

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

Gentlemen:

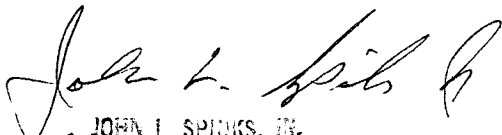
The Fish and Wildlife Service (Service) has a wildlife extension agreement and a perpetual wetlands easement for Ole Lake in Kingsbury County, South Dakota. The Service, in conjunction with Ducks Unlimited, plans to install a structure that will raise Ole Lake approximately 1-2 feet above its average natural level.

Enclosed are Application for Permit to Appropriate Water; Engineering Drawings, 4 pages; Filing Map No. 6R-SD-653-WR-P-17.0, one page; and Government Purchase Order in the amount of \$225 to cover filing fees. Please sign on the reverse where indicated and return to this office, or issue an invoice, and payment will be forwarded.

Please advise this office of the name and address of the newspaper selected to publish the Notice of Application so that we can forward the required Authorization of Advertisement prior to publication.

If you have any questions or require further information, please contact Cheryl Williss at (303) 236-5321.

Sincerely,


JOHN L. SPRINKS, JR.
Deputy Regional Director

Enclosures





Department of Water & Natural Resources

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

March 27, 1990

Cheryl Williss
US Fish and Wildlife Service
PO Box 25486
Denver Federal Center
Denver CO 80225

Dear Ms. Williss:

This letter is in response to the water permit application received on February 27, 1990 for Ole Lake WPA located in section 31-T111N-R53W, Kingsbury County, South Dakota. The following information is needed to complete the permit application:

- 1) The amount of water claimed (item 2 on the enclosed copy of the application) specifies "plus 65 acre-feet seasonal use". Please clarify the purpose for this additional storage, when the water is to be impounded and the elevation of the water level.
- 2) A written preliminary risk assessment of the downstream hazard potential needs to be provided to aid in determining the hazard classification for the dam (see enclosed Safety of Dams Rules Sections 74:02:08:05 and 74:02:08:05.01). The hazard classification for the dam (Category 1, 2 or 3) needs to be known to determine what provisions of the Safety of Dams Rules will apply to this proposed dam.

The risk assessment is to consist of an on-site inspection of properties (homes, roads, dams and other structures) downstream from the proposed dam. A description of the structures, location and elevation above the channel needs to be included in the risk assessment. The assessment needs to be prepared by an engineer as defined in the Safety of Dams Rules.

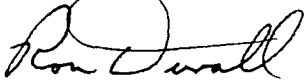
- 3) Plans and specifications for the proposed dam are also needed. A preliminary set of plans and specifications have been received from Ducks Unlimited; however, the plans need to include the discharge capacity of the spillway (item 6, Safety of Dams Rule 74:02:08:09). The plans and specifications also need to be prepared and signed by an engineer as defined in the Safety of Dams Rules.

(continued)

March 27, 1990
Cheryl Williss
Page 2

The permit application can not be considered by the Water Management Board until the application is complete. Please complete the above items to begin the processing of the application.

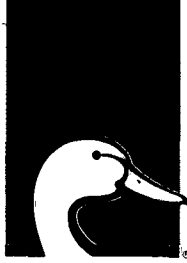
Sincerely,

A handwritten signature in cursive script, appearing to read "Ron Duvall".

Ron Duvall
Natural Resources Engineer
605 773-3352

enc.

cc: Roger Smith, Ducks Unlimited, Inc.



DUCKS
UNLIMITED
INC.

DUCKS UNLIMITED, INC.
GREAT PLAINS REGIONAL OFFICE

6115 East Main Avenue
Bismarck, North Dakota, 58501
(701) 258-5599



March 28, 1990

Ron Duvall
SD State Water Commission
Water Rights Division
523 E. Capitol
Pierre, SD 57501

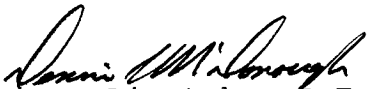
RE: Lake Ole Project

Dear Ron:

Enclosed are the plans and specifications for the Lake Ole proposed project. A "Design Report" is also enclosed as well as a discharge curve. The Design Report includes a section on the preliminary risk assessment as requested.

If you have any questions, please contact me at (701) 258-5599.
Thank you.

Sincerely,

for 
Doug Lipetzky, P.E.
Regional Engineer

DL:cm

Enclosure



Department of Water & Natural Resources

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

April 13, 1990

Cheryl Williss
U.S. Fish and Wildlife Service
P.O. Box 25486
Denver Federal Center
Denver, Colorado 80225

Dear Ms. Williss:

We have reviewed the plans and specifications for the Ole Lake WPA dam located in Kingsbury County. The plans and specifications as submitted are approved.

Our review was to determine compliance with the minimum spillway design flood requirements as specified by the Water Management Board Safety of Dams Rules, Chapter 74:02:08. Approval applies only to the portion of the plans and specifications that could result in uncontrolled releases of water from the Ole Lake WPA dam. Approval of these plans and specifications does not release the U.S. Fish and Wildlife Service as owner of the Ole Lake WPA dam from the responsibility for operating and maintaining the dam in good repair to assure the safety of the dam.

If you have any questions, please let us know.

Sincerely,

A handwritten signature in cursive script that reads "Gale N. Selken".

Gale N. Selken, P.E.
Natural Resources Engineer IV
for John Hatch, Chief Engineer
Water Rights Division
605 773-3352

cc: Doug Lipetzky, P.E.
Regional Engineer
Ducks Unlimited, Inc.

RECEIPT

Division of Water Rights

South Dakota Department of Water and Natural Resources

412204

Pierre, April 16, 1, 1990

RECEIVED OF US Fish & Wildlife Service Box 25486, Denver, Federal Center, Denver Co

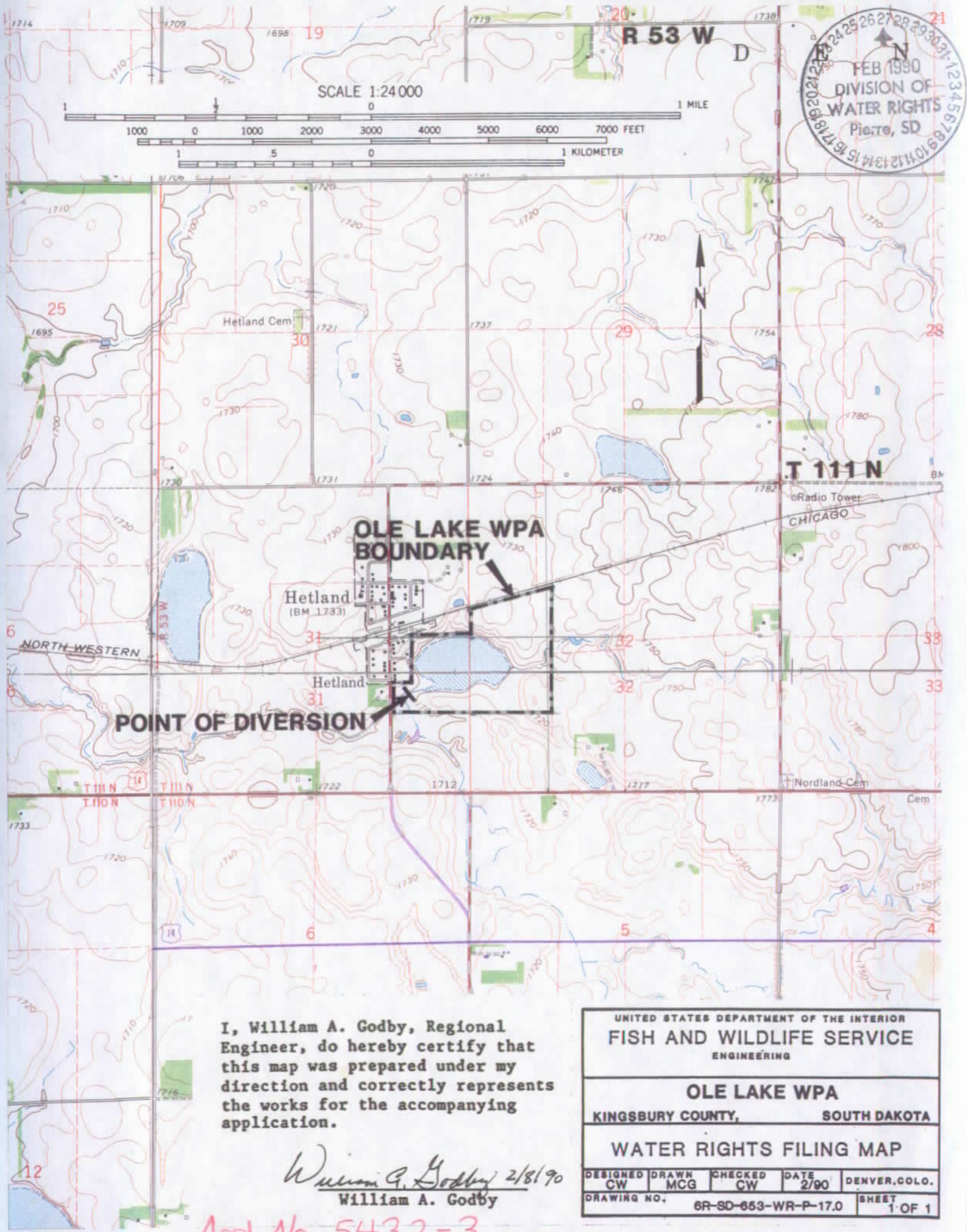
80225

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 _____	225	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	225 00

By

John Hatch
Chief Engineer



I, William A. Godby, Regional Engineer, do hereby certify that this map was prepared under my direction and correctly represents the works for the accompanying application.

William A. Godby 2/8/90
William A. Godby

Appl. No. 5432-3

UNITED STATES DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE
ENGINEERING

OLE LAKE WPA
KINGSBURY COUNTY, SOUTH DAKOTA

WATER RIGHTS FILING MAP

DESIGNED CW	DRAWN MCG	CHECKED CW	DATE 2/90	DENVER, COLO.
DRAWING NO. 6R-SD-653-WR-P-17.0				SHEET 1 OF 1

DESIGN REPORT

LAKE OLE LAKE THOMPSON PPJV PROJECT

SD-078-02

Location of Proposed Project

The proposed dam and created marsh is located on private land in Section 31 & 32, Township 111 North, Range 53 West, in Kingsbury County, South Dakota. The proposed dam is on an unnamed tributary that flows into Lake Preston. The watershed consists of 590 acres.

Classification of Proposed Dam

Based on the classification criteria outlined in Chapter 74:02:08 "Safety of Dams", it is recommended that the proposed dam is classified as a small, Category 3 dam. No loss of life and minimal economic loss potential is expected should failure occur. The product of the maximum storage capacity times the effective height is 1800 which is less than 3000.

Preliminary Risk Assessment

The proposed dam is located on the outskirts of the city of Hetland, South Dakota. A box culvert bridge (12' wide x 7.5' high) is located in Highway 21 approximately 600 feet downstream from the proposed dam location. The bridge invert is at elevation 1695.4 and the top of the road at 1706.1. Approximately 3.2 feet exists between the top of the box culvert and top of the road, no other buildings or structures are near the proposed dike.

An unimproved section line trail lies 3/4 mile downstream from the proposed project and the railroad crosses the stream another 3/4 mile downstream. The stream then dumps into Lake Preston. Neither the section line trail nor the railroad crossing should be endangered in the event of a failure.

The Highway 21 box culvert is of most concern, however, it is located in a low speed, highly visible area. In the unlikely event of a failure, one would not expect any loss of life. Therefore, the risk to the general public would appear minimal.

Design

The proposed dam is designed to meet or exceed South Dakota requirements for a small Category 3 dam. Since no emergency spillway exists and the maximum storage capacity times the effective height is less than 3000, the spillway design flood is a 25 year frequency. The principal spillway as designed will pass the 100 year 24 hour design flood with 1.5 feet of freeboard.

Discharge Capacity

The SCS TR-20 Hydrology Program was used to determine the discharge at various reservoir stages with respect to time. The program uses accepted procedures to develop inflow and outflow hydrographs. The principal spillway capacity was calculated using the weir flow formula. A discharge curve for the 20' steel sheet pile weir is attached. The weir crest elevation is proposed at 1703.5.

The following is a relationship between peak inflows, corresponding outflows, and reservoir elevations:

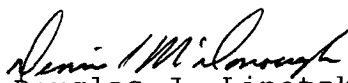
Event	Peak Inflows (cfs)	Max. Water Surface Elevation (msl)	Peak Discharge (cfs)
10 Yr.	181	1704.28	42
50 Yr.	306	1704.58	69
100 Yr.	374	1704.72	86

Plans and Specifications

A set of plans and specifications has been submitted to the Division of Water Rights for the purpose of permit review. The plans, specifications and information contained in this report should satisfy Section 74:02:08:09 of the "South Dakota Dam Safety Requirements".

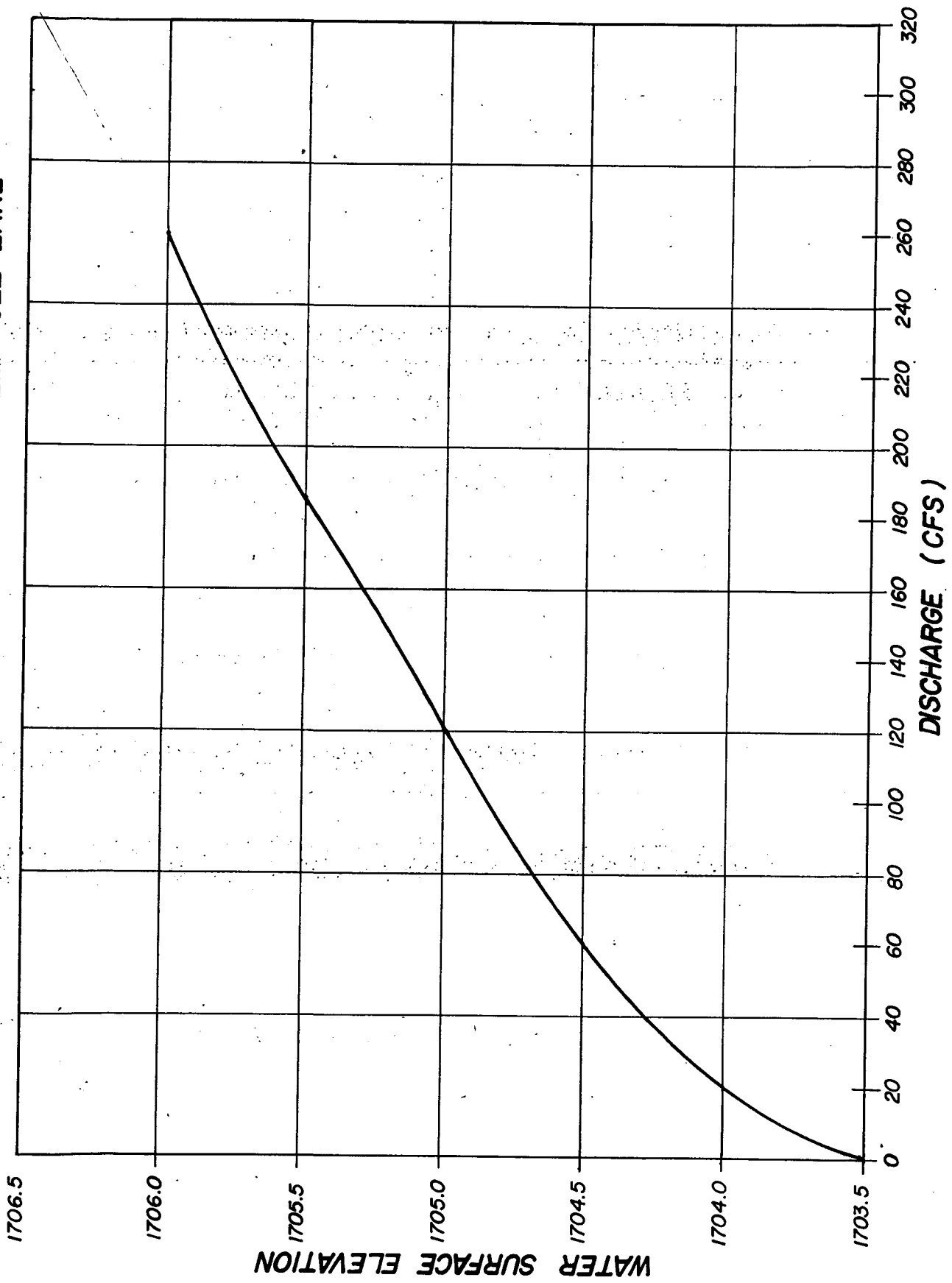
Dated: March 28, 1990

Submitted By:


For Douglas J. Lipetzky, P.E.
PE-4499

Attachments

DISCHARGE CURVE FOR 20' SHEETPILE WEIR - OLE LAKE



LAKE THOMPSON - OLE LAKE
DU-02 - SD - 078 - 001

Section 74:02:08:09 Contents of Plans & Specifications

- 1) Topo Map - OK
- 2) Dam axis profile - OK
- 3) Max. cross-section w/ elev. etc. - OK
- 4) Area-capacity curve - OK
- 5) Outlet drawings - OK
- 6) Spillway Rating curve - OK
- 7) Spillway Channel cross-section - OK
- 8) Specifications - OK
- 9) EPP - NA Preliminary Risk Assessment indicates a Cat. 3 dam

Using USGS "Techniques for Estimating Flood Peaks, Volumes, & Hydrographs on Small Streams in South Dakota"

$$\begin{aligned}
 Q_{25} &= 83.4 A^{.60} S^{.44} S_i^{-.072} \\
 &= 83.4 (.92)^{.60} 35^{.44} 3.33^{-.72} \\
 &= 83.4 (.9512) (4.7796) (.4206) \\
 Q_{25} &= \underline{159.47 \text{ cfs}}
 \end{aligned}$$

$$\begin{aligned}
 A &= 590 \text{ Ac} = 0.92 \text{ mi}^2 \\
 S &= 35' / \text{mile} \\
 S_i &= 3.33
 \end{aligned}$$

$$\begin{aligned}
 Q_{100} &= 132 A^{.65} S^{.46} S_i^{-.067} \\
 &= 132 (.92)^{.65} 35^{.46} 3.33^{-.67} \\
 &= 132 (.9472) (5.13) (.4466) \\
 Q_{100} &= \underline{286.48 \text{ cfs}}
 \end{aligned}$$

Using Ducks Unlimited calculations - from SCS TR-20 Hydrology Program

$$\begin{aligned}
 Q_{10} &= 181 \text{ cfs} \\
 Q_{50} &= 306 \text{ cfs} \\
 Q_{100} &= 374 \text{ cfs}
 \end{aligned}$$

Top of dam Elev. = 1706.5 - compacted fill
1707 - w/Top soil

Spillway Elev. 1703.5 - Top of 20' wide section
1705.0 - Top of 58' wide section

Using std. Weir formula $Q = CLH^{3/2}$

$$Q = 3.3(20)(3.5)^{1.5}$$

$$Q = \underline{\underline{432 \text{ cfs}}}$$

The Lake Thompson - Old Lake WPA dam qualifies for Section 74:02:08:07.01 Exception which requires a minimum spillway design flood to be a 25-year frequency event. The dam has a spillway capacity in excess of a 100-year frequency event; therefore, it meets the requirements of Section 74:02:08:07.01 & Section 74:02:08:09

REPORT ON
APPLICATION NO. 5432-3
U.S. FISH AND WILDLIFE SERVICE
APRIL 4, 1990

The U.S. Fish and Wildlife Service has filed Application No. 5432-3 to impound 125.1 acre-feet of water by construction of a dam in the Ole Lake Waterfowl Production Area (WPA), in Kingsbury County. The dam is to be located in the NE 1/4 SE 1/4 of Section 31 and the impoundment area is to be located primarily in the NE 1/4 SE 1/4 of Section 31 and NW 1/4 SW 1/4 of Section 32; all in T111N-R53W. The water is to be stored annually to an elevation of 1703.5 feet mean sea level (msl) to provide habitat for fish and wildlife production.

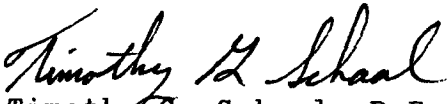
Discussion:

The U.S. Fish and Wildlife Service in conjunction with Ducks Unlimited plans to install the Ole Lake WPA dam to raise Ole Lake approximately 1 to 2 feet above its average natural level. The dam will be approximately 7.5 feet high and 300 feet long with a 58 foot wide steel sheet pile spillway with a stop log section to control lake levels. The dam will have a normal storage capacity of 125.1 acre-feet and a maximum storage capacity of 250 acre-feet. Based on a preliminary risk analysis submitted by the U.S. Fish and Wildlife Service the dam will be classified as a Category 3 low hazard dam. The dam will be located approximately 2 miles upstream of Lake Preston.

Plans and specifications for the Lake Ole WPA dam have been reviewed and approved. The dam qualifies for the exception in Section 74:02:08:07.01 of the Safety of Dams Rules which requires the minimum spillway design flood to be a 25-year frequency event. The dam has a spillway capacity in excess of a 100-year frequency event.

Recommendations:

1. Application No. 5432-3 should be approved. The dam meets the requirements of the Safety of Dams Rules, Chapter 74:02:08 and it will not have any adverse effect on existing water rights.
2. The fee for Application No. 5432-3 must be received before this application is issued.


Timothy G. Schaal, P.E.
Water Resources Engineer

Reviewed by:

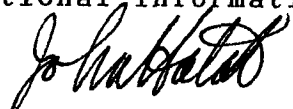

Gale N. Selken, P.E.
Natural Resources Engineer IV

RECOMMENDATION OF CHIEF ENGINEER FOR WATER PERMIT
APPLICATION NO. 5432-3, U.S. Fish and Wildlife Service

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 Water Permit Application No. 5432-3, U.S. Fish and Wildlife Service, PO Box 25486, Denver Federal Center, Denver CO.

The Chief Engineer is recommending APPROVAL of Application No. 5432-3 because 1) there is reasonable probability that there is unappropriated water available for the applicant's proposed use, 2) the proposed diversion can be developed without unlawful impairment of existing rights, 3) the proposed use is a beneficial use and 4) in the public interest.

See the attached report for additional information.


JOHN HATCH, Chief Engineer
April 11, 1990

 **Department of
Water & Natural Resources**

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

April 13, 1990

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

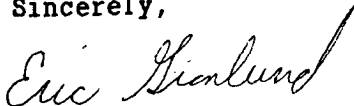
John L. Spinks, Jr.,
Deputy Regional Director
US Fish & Wildlife Service
Box 25486, Denver Federal Center
Denver, CO 80225

Dear Mr. Spinks:

Water Permit Application No. 5432-3 for fish and wildlife production use has been examined and found to comply with the South Dakota Water Laws and applicable rules. A notice of hearing has been sent to the Publisher of the Arlington Sun printed at Arlington SD. For your information, a copy of the notice is enclosed. Copies of the report and the Chief Engineer's recommendation are also enclosed. Please review the notice prior to publication and notify this office, if you have any corrections or questions.

Be sure to contact the above 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 twenty days before the board meeting. We must receive Proof of Publication before the application can be considered by the Water Management Board.

Sincerely,



Eric Gronlund
Natural Resources Engineer
605 773-3352

enclosures

**SOUTH Dakota Department of
Water & Natural Resources**

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

[Handwritten: 5432-3]
[Handwritten: 5/1/90]
Department of
Water & Natural Resources
523 East Capitol
Pierre, SD 57501-3181

April 13, 1990

Arlington Sun
Box 370
Arlington, SD 57212-0370

ATTN: Legal Publications:

Enclosed is a Notice of Hearing on Application No. 5432-3 to be published twice. Please publish the first notice on or before April 19, 1990 with the second publication 7 days later.

The APPLICANT MUST VERIFY TO YOU THAT THE NOTICE IS TO BE PUBLISHED, before you make the first publication. Please BILL the APPLICANT for the cost of publication. The APPLICANT is US Fish & Wildlife Service, Box 25486, Denver Federal Center, Denver, CO 80225.

A copy of BOTH publications must be SENT to the WATER RIGHTS DIVISION. IMMEDIATELY return the FIRST publication with the FIRST 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 in the second publication. Publication errors can invalidate the public notice and cause the applicant costly delays.

Please be sure the SECOND publication is returned IMMEDIATELY with the enclosed Proof of Publication form. DO NOT WAIT until the end of the month or the billing cycle. The permit application cannot be considered by the Water Management Board until proof of publication has been received.

Sincerely,

Eric Gronlund

Eric Gronlund
Natural Resources Engineer
605 773-3352

enclosures

-----CUT HERE-----

FIRST TRANSMITTAL NOTICE

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

No. _____

Date _____

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

Name _____

Newspaper _____

Instruction to Newspaper - Publish first Notice on or before April 19, 1990 with 2nd publication 7 days later. The applicant is responsible for payment.

NOTICE OF HEARING on Application No. 5432-3 to Appropriate Water

Notice is given that the US Fish & Wildlife Service, Box 25486, Denver Federal Center, Denver, CO 80225 has filed an application for a water permit to impound 125.1 acre-feet of water by constructing a dam in the Ole Lake Waterfowl Production Area. The dam site is to be located in the NE1/4 SE1/4 Section 31 and the impoundment area is to be located primarily in the NE1/4 SE1/4 Section 31; NW1/4 SW1/4 Section 32; all in T111N-R53W. Water is to be stored annually to an elevation of 1703.5 feet mean sea level and water is to be used to provide habitat for fish and wildlife production. Additional fills of the proposed dam (up to 65 acre-feet annually) are authorized if this application is approved.

Pursuant to SDCL 46-2A-2, the Chief Engineer of the Water Rights Division recommends APPROVAL of Application No. 5432-3 because 1) unappropriated water is available, 2) existing rights will not be unlawfully impaired, 3) it is a beneficial use of water and 4) it is in the public interest. This application will be considered by the Water Management Board in the Pelican Room, Ramkota Inn, Hwy 212, Watertown, SD on May 23, 1990 at 10:00 am. The Chief Engineer's recommendation is not final or binding upon the Board. The Board is authorized to 1) approve, 2) approve with qualifications, 3) defer or 4) deny this application based on the facts presented at the public hearing.

Any interested person that intends to participate in the hearing before the Board by presenting evidence or cross-examining witnesses according to SDCL 1-26, must file a written petition with BOTH the applicant and Chief Engineer by May 11, 1990. The Chief Engineer's address is "Water Rights Division, Foss Building, 523 E Capitol, Pierre SD 57501 (605 773-3352)". The petition may be informal, but must include a statement describing the petitioner's interest in the application, the petitioner's reasons for opposing or supporting the application and the signature and mailing address of the petitioner or legal counsel if legal counsel is obtained. The applicant need not file a petition. Contact the Water Rights Division to request information on this application or to assure access to the hearing by the handicapped.

This hearing is an adversary proceeding. Any person filing a petition and/or the applicant have the right to be represented by a lawyer. These and other due process rights will be forfeited if not exercised. Decisions of the Board may be appealed to the Circuit Court and State Supreme Court as provided by law. The time of the hearing will also be automatically delayed for at least twenty days upon written request to the Chief Engineer from the applicant or a petitioner. The request for a delay must be received by May 11, 1990.

This application is made pursuant to SDCL 46-1-1 thru 46-1-9, 46-1-12 thru 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-10, 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; and Board Rules ARSD 74:02:01:01 thru 74:02:01:15.

PROOF OF PUBLICATION

STATE OF SOUTH DAKOTA)
 County Kingsbury) ss.

I, Cheryl Sturges
 certify that the attached printed Notice v
 from the Arlington Sun

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

_____ of Arlington
 County of Kingsbury and State of South
 that the said notice was published in said newspa
 following two dates:

April 18, 1990
April 25, 1990

Cheryl Sturges
 (Signature)

bookkeeper
 (Title)

4-25-90

(Date Signed)

**NOTICE OF HEARING
 on Application No. 5432-3
 to Appropriate Water**

Notice is given that the US Fish & Wildlife Service, Box 25486, Denver Federal Center, Denver, CO 80225 has filed an application for a water permit to impound 125.1 acre-feet of water by constructing a dam in the Ole Lake Waterfowl Production Area. The dam site is to be located in the NE 1/4 SE 1/4 Section 31 and the impoundment area is to be located primarily in the NE 1/4 SE 1/4 Section 31; NW 1/4 SW 1/4 Section 32; all in T11N-R53W. Water is to be stored annually to an elevation of 1703.5 feet mean sea level and water is to be used to provide habitat for fish and wildlife production. Additional fills of the proposed dam (up to 65 acre-feet annually) are authorized if this application is approved.

Pursuant to SDCL 46-2A-2, the Chief Engineer of the Water Rights Division recommends APPROVAL of Application No. 5432-3 because 1) unappropriated water is available, 2) existing rights will not be unlawfully impaired, 3) it is a beneficial use of water and 4) it is in the public interest. This application will be considered by the Water Management Board in the Pelican Room, Ramkota Inn, Hwy 212, Watertown, SD on May 23, 1990 at 10:00 am. The Chief Engineer's recommendation is not final or binding upon the Board. The Board is authorized to 1) approve, 2) approve with qualifications, 3) defer or 4) deny this application based on the facts presented at the public hearing.

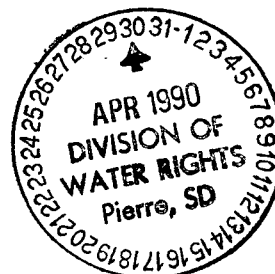
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This hearing is an adversary proceeding. Any person filing a petition and/or the applicant have the right to be represented by a lawyer. These and other due process rights will be forfeited if not exercised. Decisions of the Board may be appealed to the Circuit Court and State Supreme Court as provided by law. The time of the hearing will also be automatically delayed for at least twenty days upon written request to the Chief Engineer from the applicant or a petitioner. The request for a delay must be received by May 11, 1990.

This application is made pursuant to SDCL 46-1-1 thru 46-1-9, 46-1-12 thru 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-10, 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; and Board Rules ARSD 74:02:01:01 thru 74:02:01:15.

4-25-2

Cost of Printing: \$35.55
91 lines
21.7¢ per line
8pt - 11 picas





Department of Water & Natural Resources

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

JUN 11 1990

John L Spinks, Jr.
US Fish & Wildlife Service
Denver Federal Center
PO Box 25486
Denver CO 80225

Dear Mr. Spinks:

Enclosed is Water Permit No. 5432-3 as approved by the Water Management Board authorizing you to construct your water diversion system and put the water to beneficial use, not exceeding the limits as specified in the Water Permit.

Also enclosed is Form 10, Notice of Completion of Works and Application of Water to Beneficial Use, which you are to complete and submit to the Chief Engineer when you have completed the system and/or have put the water to beneficial use. An inspection can then be scheduled so that the Water License may be issued, thus completing your acquisition of a Water Right.

Very truly yours,

A handwritten signature in dark ink, appearing to read "John Hatch". The signature is fluid and cursive, with the first name "John" and last name "Hatch" clearly distinguishable.

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

enclosures

PLEASE NOTE: Certain changes can be made in your permit within the five year construction period, usually without affecting the priority date provided an application to amend your permit is made within the five year period - i.e. changes in location or number of diversion points (wells) or location of land to be irrigated. Well locations for wells into the same aquifer can be moved up to 660 feet without application.

Applications to amend a permit after the five year construction period will be assigned a new priority date. Applications to change water sources, to add lands or increase original diversion rates, if approved will usually receive the date of the new application as a priority date regardless of the five year construction period.



United States Department of the Interior

FISH AND WILDLIFE SERVICE

Mountain-Prairie Region



IN REPLY REFER TO:

BA/EN
WR SD
Mail Stop 60190

MAILING ADDRESS:

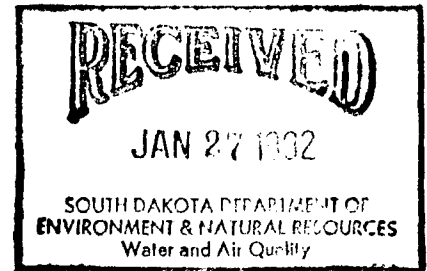
Post Office Box 25486
Denver Federal Center
Denver, Colorado 80225

STREET LOCATION:

134 Union Blvd.
Lakewood, Colorado 80228

JAN 22 1992

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



Dear Sir or Madam:

Enclosed are completed Notice of Completion of Works and Application of Water to Beneficial Use forms for the following water permits:

Water Permit No. 5224-3, Eilen Waterfowl Production Area,
Deull County; and

Water Permit No. 5432-3, Lake Ole, Kingsbury County.

Please schedule inspections so that the Water Licenses may be issued for the above water permits.

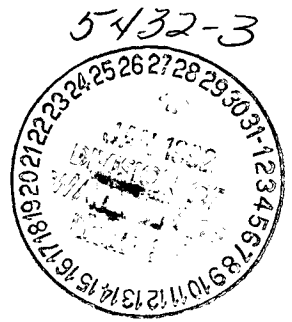
If you have any questions or require further information, please contact Linda Coe in our Engineering office at (303) 236-5321.

Sincerely,

Acting Regional Director



Enclosures



NOTICE OF COMPLETION OF WORKS AND
APPLICATION OF WATER TO BENEFICIAL USE

Date JAN 22 1992

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

United States of America, Fish and Wildlife Service
FROM: P.O. Box 25486, Denver Federal Center, Denver, CO 80225
name address city

I have completed the construction of the water diversion system and I have put the water to beneficial use to the maximum extent it is going to be used. I have not exceeded the amounts specified in Water Permit No. 5432-3.

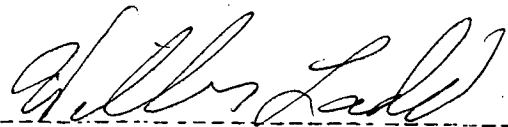
Water Permit No. 5432-3 states that the diversion system is to be constructed by May 24, 1995, and that the water it put to beneficial use by May 24, 1999.

The diversion system was completed on October 1990.

Applying the water to beneficial use was completed on May 1991.

You may schedule an inspection so that the Water License may be issued.

ACTING



signature

Regional Director

Permit No. 5432-3

Vermillion River Water District

Report Of Examination Of Works And/Or Application of Water To Beneficial Use

TO: Chief Engineer, Division of Water Rights, DENR, Foss Bldg., Pierre, SD 57501

I have this day made a thorough examination of the water use system constructed by USA Fish and Wildlife Service of P.O. Box 25486, Denver Federal Center, Denver CO 80225 holder of Permit No. 5432-3, bearing the priority of February 27, 1990 authorizing the storage of 125.1 acre-feet with additional fills up to 65 acre feet annually of the waters of Ole Lake for providing habitat for fish and wildlife production purposes, in Kingsbury County.

I have to report on the conditions of the same as follows:

A. Works used to divert the water:

A 296' long 12' wide and 7.5' high dam

B. Works used to transport water to place of use:

NA

C. Works used to apply water to beneficial use:

Ole Lake

The system is in the following condition good. The point of diversion is located 825' South and 1915' East of the center of Section 31-T111N-R53W. The works are capable of diverting and conveying to the place of use NA cu. ft. per second of water and/or storing 125 acre-feet of water which is to be used for providing habitat for fish and wildlife production. Water has been put to beneficial use to the maximum extent as follows: NA comprising a total of NA acres of land and the license should be issued for 125 acre-feet of storage.

Applicable permit qualifications have been complied with ☒ Yes ☐ No

Exceptions to compliance are:

Date 6-11-92

Norma C. Job

NORMA C. JOB
Natural Resources Engineer II
DENR, Water Rights Division

REPORT ON INSPECTION OF PERMIT NUMBER 5432-3

DATE 6-11-1992

Other permit(s) associated with the project

DIVERSION POINT LEGAL LOCATION: NE 1/4 SE 1/4 Section 31-T111N-R53W

DAM INFORMATION:

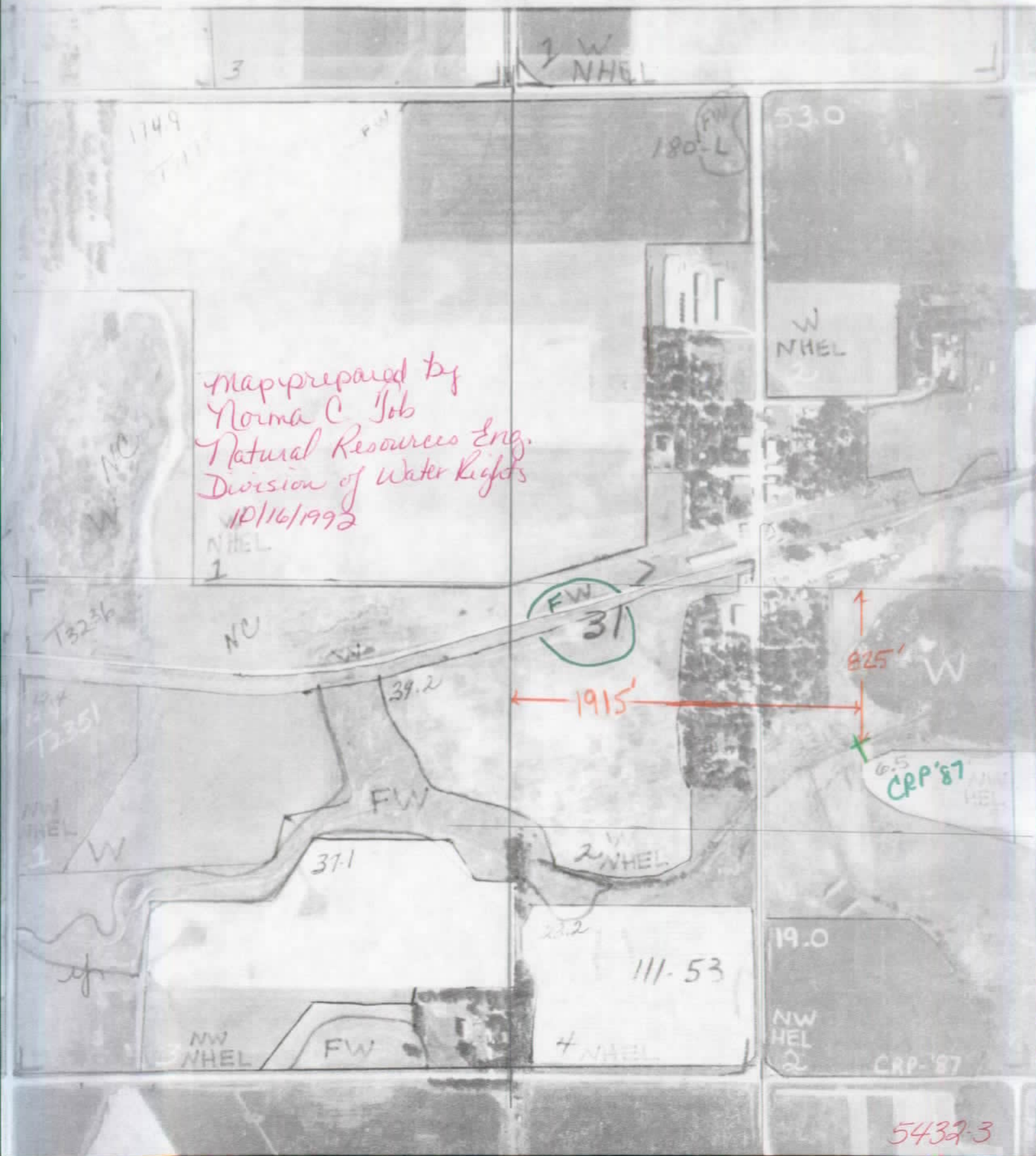
- | | |
|--|---|
| a) height to crest <u>7.5</u> feet | k) outlet tubes: |
| b) height to primary spillway <u>4.5</u> feet | 1) diameter <u>3</u> feet wide |
| c) height to secondary spillway <u>N/A</u> feet | 2) type <u>Stop log structure</u> |
| d) crest width <u>12</u> feet | 3) valved (Y/N) |
| e) crest length <u>296</u> feet | 4) valve type |
| f) spillway length feet | 5) location on structure |
| g) spillway width <u>20</u> feet | |
| h) approximate storage <u>125</u> ac-ft | |
| i) approximate storage to crest <u>225</u> ac-ft | |
| j) date constructed | l) category of dam <u>III</u> (I,II,III) |
| | m) inspection sheet completed <u>N</u> (Y/N) |
| | n) name of contractor: <u>Ducks Unlimited</u> |

PERMIT QUALIFICATIONS AND REGULATIONS:

- a) Soil and water permit lands agree with lands being irrigated and lands listed on permit NA (Y/N)
- b) Special qualifications to permit being abided by NA (Y/N)
- c) All structures, wells and lands on map Y (Y/N)
- d) Irrigation Questionnaires checked to determine if permit owner started irrigation by the end of construction period NA (Y/N)

NOT TO SCALE

Map prepared by
Norma C. Job
Natural Resources Eng.
Division of Water Rights
10/16/1992



5432-3



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE SOUTH DAKOTA 57501-3181

December 23, 1992

5432-3

Cheryl Williss
U.S. Fish and Wildlife Service
P.O. Box 25486
Denver Federal Center
Denver, CO 80225

Dear Ms. Williss:

The inspection of your water use system and the inspection of the extent of application of water to beneficial use, as developed under Water Permit No. 5432-3, has been completed. Your final water right document, the Water License, can now be issued.

Statutes require that we charge a \$50.00 fee for the inspection and issuance of the Water License. Upon receipt of the \$50.00 fee from you, we will begin processing your Water License.

South Dakota Water Law 46-5-30.1 requires that a permit holder may not divert water until the \$50.00 license fee has been paid. Please contact us if you have any questions.

Sincerely,

Cheryl F. Frost
Secretary
Water Rights Division
(605) 773-3352

NOTE: On check or money order, please specify your permit number.
This will insure proper handling of the fee.



United States Department of the Interior

FISH AND WILDLIFE SERVICE

Mountain-Prairie Region



IN REPLY REFER TO:

BA EN

WR SD

Mail Stop 60190

MAILING ADDRESS:

Post Office Box 25486
Denver Federal Center
Denver, Colorado 80225

STREET LOCATION:

134 Union Blvd.
Lakewood, Colorado 80228



JAN - 8 1993

Ms. Cheryl F. Frost
Department of Environment and
Natural Resources
Joe Foss Building
523 East Capitol
Pierre, South Dakota 57501-3181

Dear Ms. Frost:

In response to your letter of December 23, 1992, enclosed is a Money Order in the amount of \$50 to cover the inspection fee and issuance of the Water License for Water Permit No. 5432-3, Lake Ole, Kingsbury County.

If you have questions or require further information, please contact Linda Coe in our Water Rights Branch at (303) 236-5321.

Sincerely,

ACTING

William A. Goode
Ernest D. HUSMANN
Regional Engineer

Enclosure

RECEIPT

413587

Division of Water Rights

South Dakota Department of Environment and Natural Resources

Pierre, _____ January 11, 19 93

RECEIVED OF U.S. Fish & Wildlife Service, PO Box 25486, Denver, CO 80225

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

Fee for Application for Permit No. _____ to Appropriate Water, to construct and to put water to beneficial use _____		
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. <u>5432-3</u>	50	00
Fee for Filing Transfer Form _____		
Fee for Filing Extension Request _____		
Fee for _____		

(Any Other Work Provided by Law)	Total	50 00

By

Chief Engineer

John Hatch

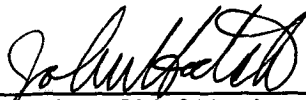
STATE OF SOUTH DAKOTA
WATER LICENSE NO. 5432-3

(1) U.S. Fish & Wildlife Service, of P.O. Box 25486, DFC, Denver, CO 80225 made Application No. 5432-3, February 27, 1990 for a water permit to impound 125.1 acre feet of water with additional fills up to 65 acre feet annually by constructing a dam in the Ole Lake Waterfowl Production Area in Kingsbury County, South Dakota for fish and wildlife production purposes. Permit No. 5432-3, with a priority date of February 27, 1990 was approved May 24, 1990 and issued to the applicant for diversion of water with construction of the described water supply system to be completed on or before May 24, 1995 and for the application to beneficial use of said water on or before May 24, 1999.

(2) It is certified that the applicant has complied with the provisions of South Dakota State Law relating to completion of the construction of the dam with a storage capacity of 125 acre feet and is entitled to sufficient water annually to maintain the water level at the outlet elevation of 1703.5 feet mean sea level. The location of the dam is 825 feet south and 1,915 feet east of the center of Section 31 (NE 1/4 SE 1/4) and the impoundment area is located in the NE 1/4 SE 1/4 Section 31; NW 1/4 SW 1/4 Section 32; all in T111N-R53W.

(3) The applicant has complied with the provisions of South Dakota State Law relating to the application of water to beneficial use.

(4) Pursuant to South Dakota Water Law 46-5-30.1 U.S. Fish & Wildlife Service of P.O. Box 25486, DFC, Denver, CO 80225 the holder and/or owner of Water Permit No. 5432-3 is issued a license to appropriate water, the right to impound 125 acre feet of water with additional runoff to maintain the water level at the outlet elevation, with a priority date of February 27, 1990 from the location specified in (2) of this license. The water is to be used for the purpose of fish & wildlife production. This license is subject to any limitations or qualifications listed in Water Permit No. 5432-3 and subject to South Dakota State Law.



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

NOV 14 1994

date



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE SOUTH DAKOTA 57501-3181

NOV 14 1994

5432-3

Cheryl Williss
US Fish & Wildlife Service
P.O. Box 25486, DFC
Denver, CO 80225

Dear Ms. Williss:

Enclosed is Water License No. 5432-3 and Receipt No. 413587 for \$50.00 which was assessed for an inspection and issuance of the license. Water License No. 5432-3 is the final document which completes the process of obtaining a water right.

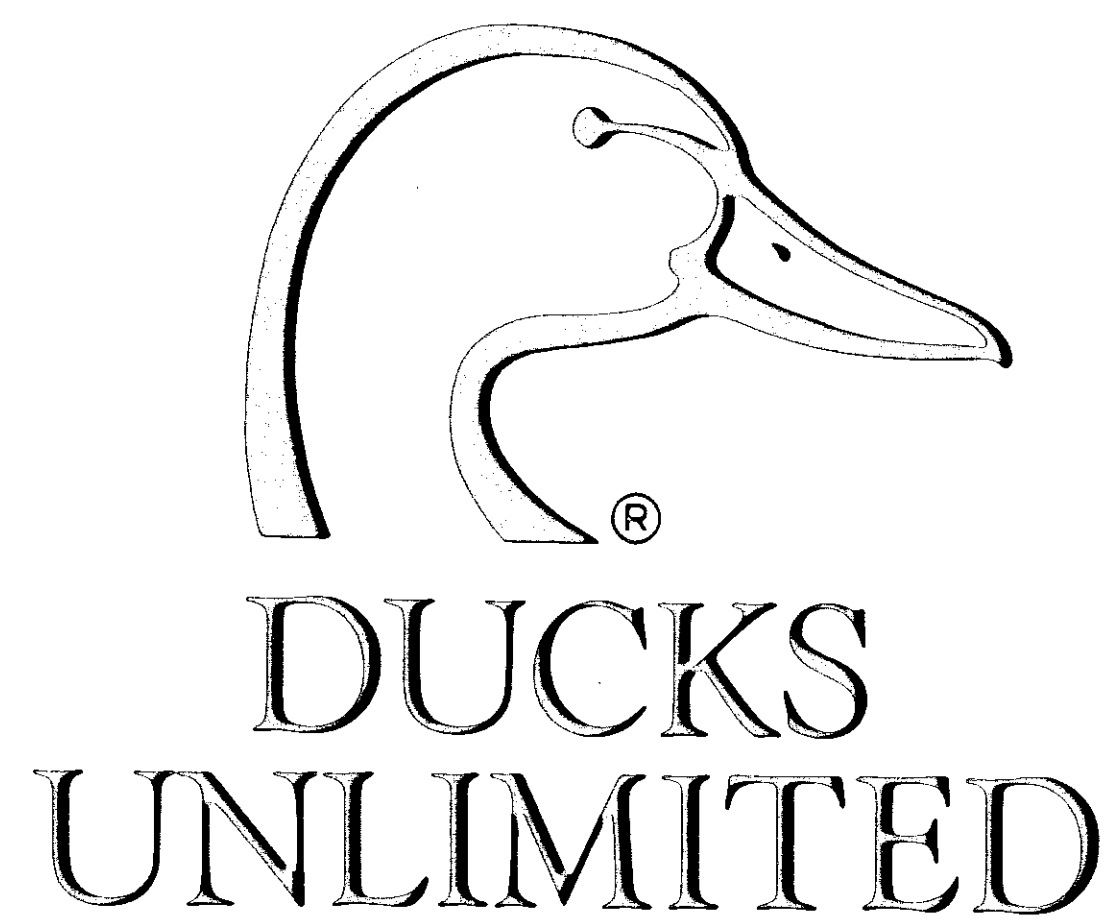
As long as you use the water beneficially, as stated in the Water License, State Water Laws provide that you have a continuing right to use the water.

Very truly yours,

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

rd
enclosures

WR # 5432-3



DUCKS UNLIMITED

PROJECT

LAKE THOMPSON - OLE LAKE PRAIRIE POTHOLE JOINT VENTURE

SECTIONS 31 & 32, TOWNSHIP III NORTH, RANGE 53 WEST, KINGSBURY CO., SOUTH DAKOTA

IN COOPERATION WITH

U.S. FISH & WILDLIFE SERVICE

SPECIFICATIONS

101	GENERAL CONDITIONS
201	MOBILIZATION
202	SITE PREPARATION
203	EXCAVATION
204	EMBANKMENT CONSTRUCTION
205	WATER
209	RIPRAP PLACEMENT
214	SHEET PILE MATERIAL
215	SHEET PILE INSTALLATION
216	STRUCTURAL STEEL
217	STEEL H-PILES

PLAN INDEX

1	VICINITY MAP
2	PROJECT TOPOGRAPHY
3	SITE PLAN & DETAILS
4	STRUCTURE DETAILS
5	SOILS INFORMATION

ESTIMATED QUANTITIES

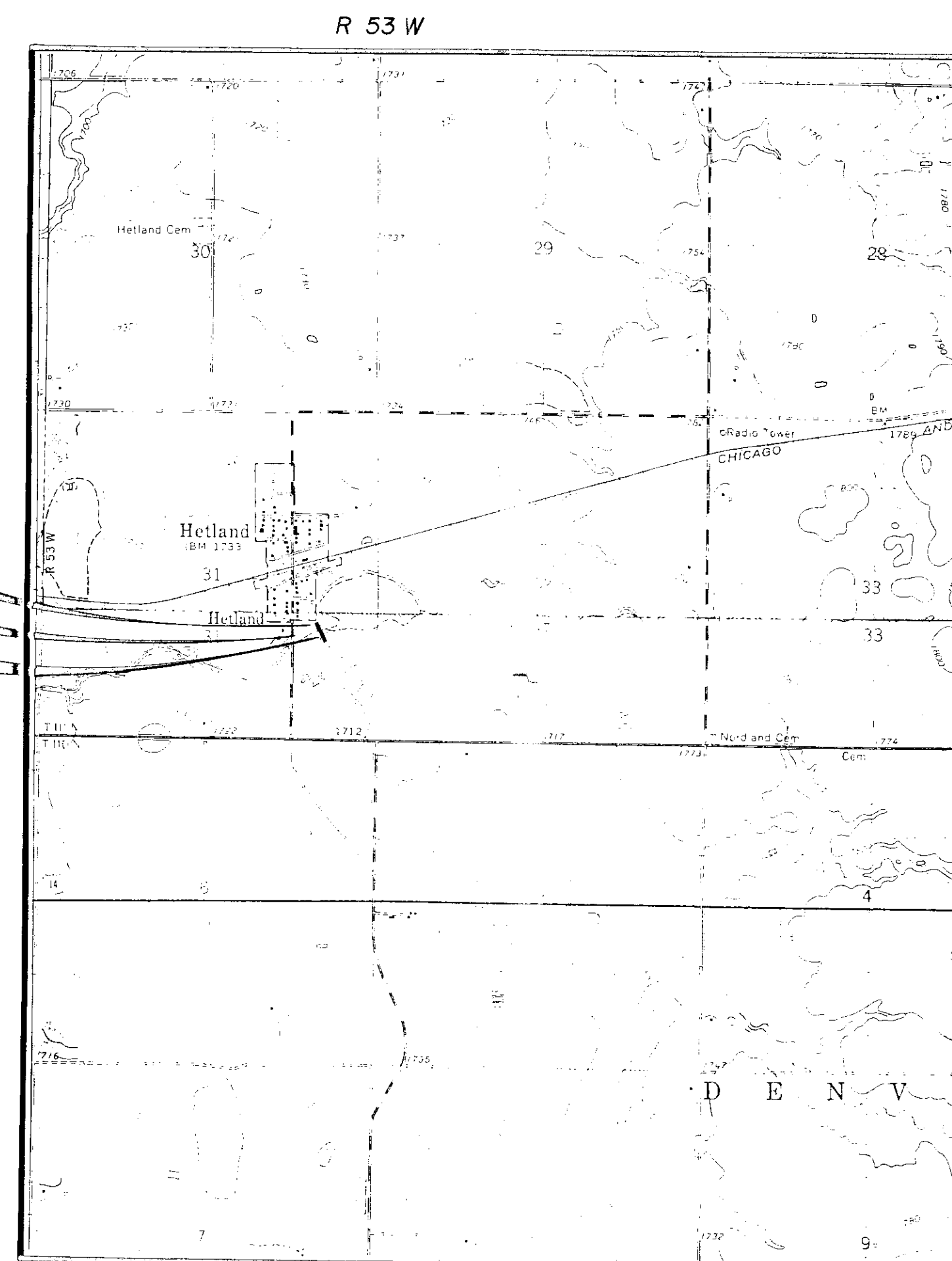
SITE PREPARATION	447 C.Y.
EXCAVATION	133 C.Y.
EMBANKMENT*	2,230 C.Y.
RIPRAP	60 C.Y.
SHEET PILE	1,056 S.F.
H-PILE	37 L.F.

* INCLUDES 15% SHRINKAGE FACTOR

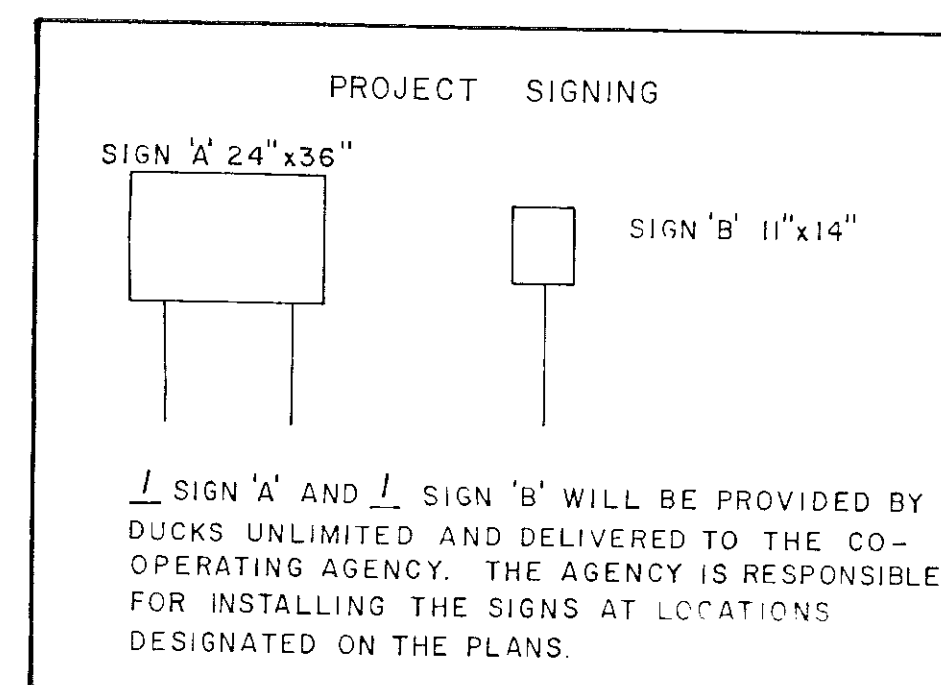
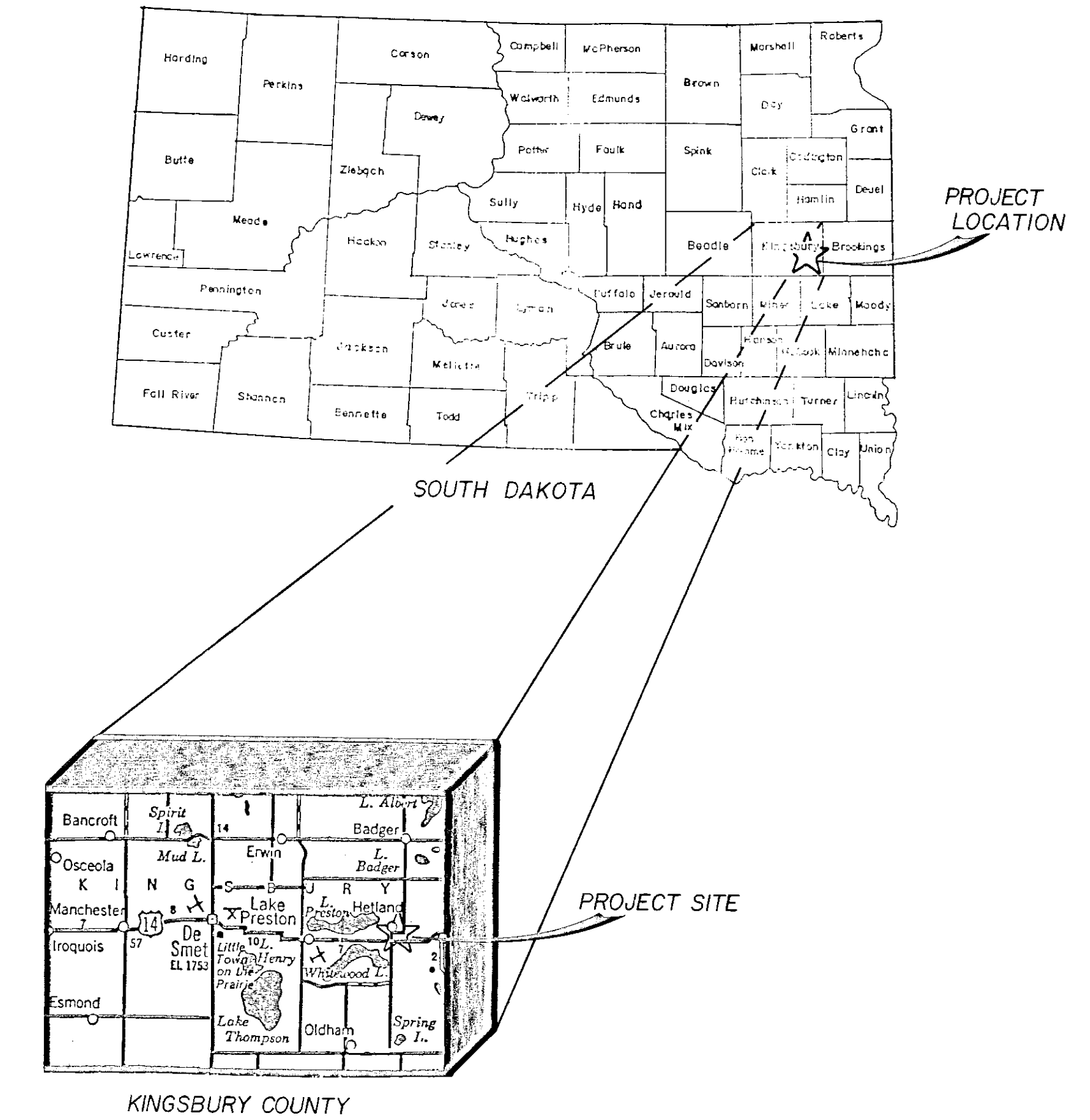
SIGN 'B' LOCATION

SIGN 'A' LOCATION

EMBANKMENT SITE



SITE PLAN
SCALE 1" = 2,000'



	DUCKS UNLIMITED INC.	PROJECT NO. DU-02-SD-078-001	DESIGNED BY: D. J. L.
	GREAT PLAINS REGIONAL OFFICE	LAKE THOMPSON-OLE LAKE	DRAWN BY: K. D. B.
DATE	SHEET NO. 1 of 5	SURVEYED BY:	CHECKED BY:
		APPROVED BY:	

Appl. No. 5432-3



DUCKS UNLIMITED

PROJECT

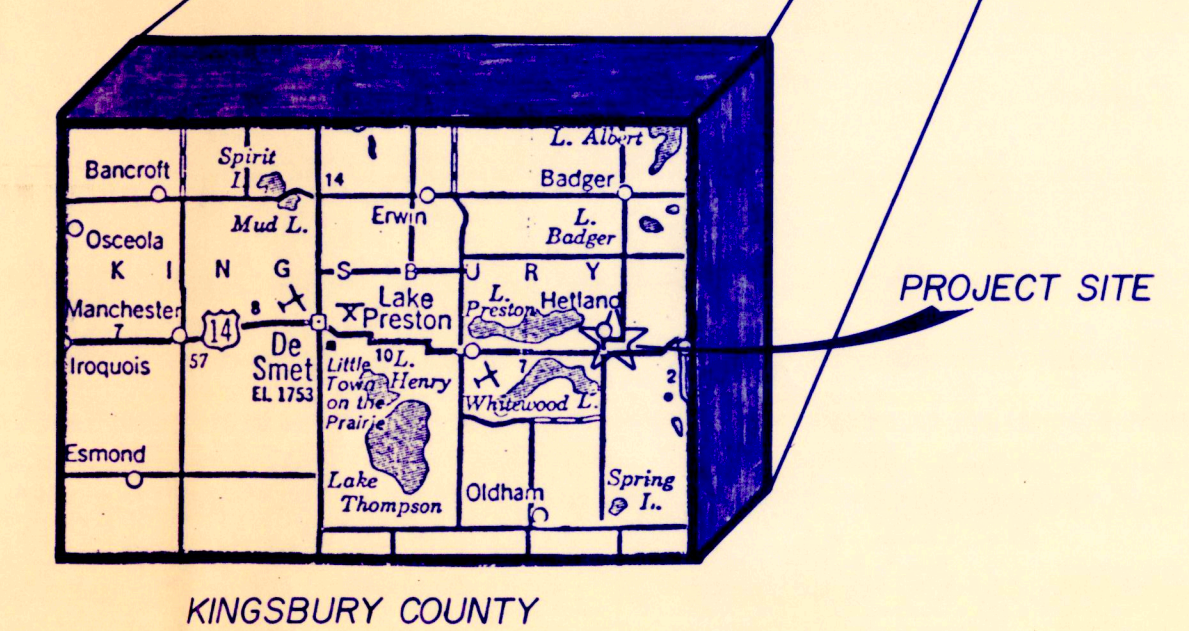
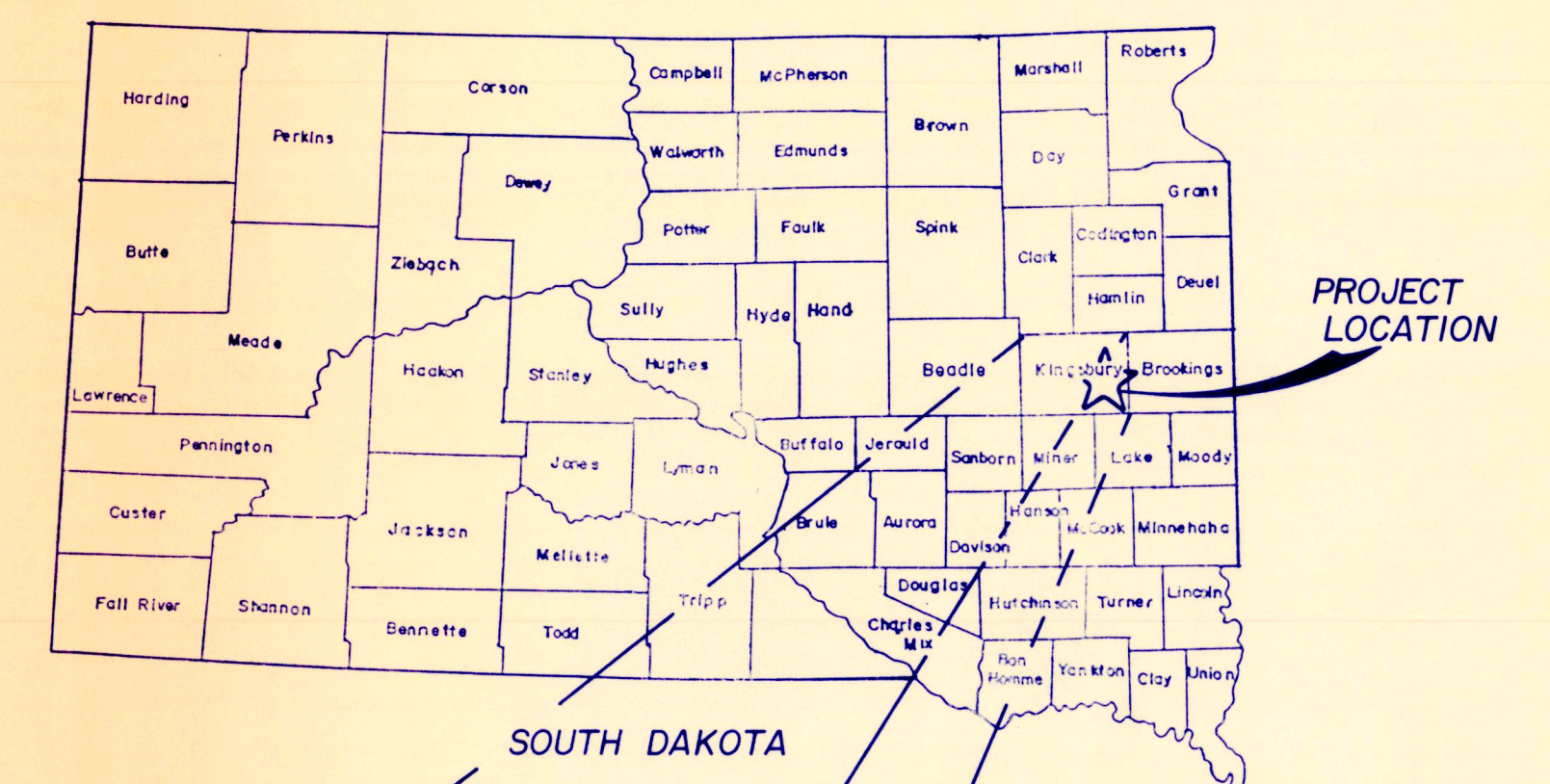
LAKE THOMPSON - OLE LAKE PRAIRE POT HOLE JOINT VENTURE

SECTIONS 31 & 32, TOWNSHIP III NORTH, RANGE 53 WEST, KINGSBURY CO., SOUTH DAKOTA

IN COOPERATION WITH

U.S. FISH & WILDLIFE SERVICE

WR # 5432-3



- 101 GENERAL CONDITIONS
- 201 MOBILIZATION
- 202 SITE PREPARATION
- 203 EXCAVATION
- 204 EMBANKMENT CONSTRUCTION
- 205 WATER
- 209 RIPRAP PLACEMENT
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- 216 STRUCTURAL STEEL
- 217 STEEL H-PILES

PLAN INDEX

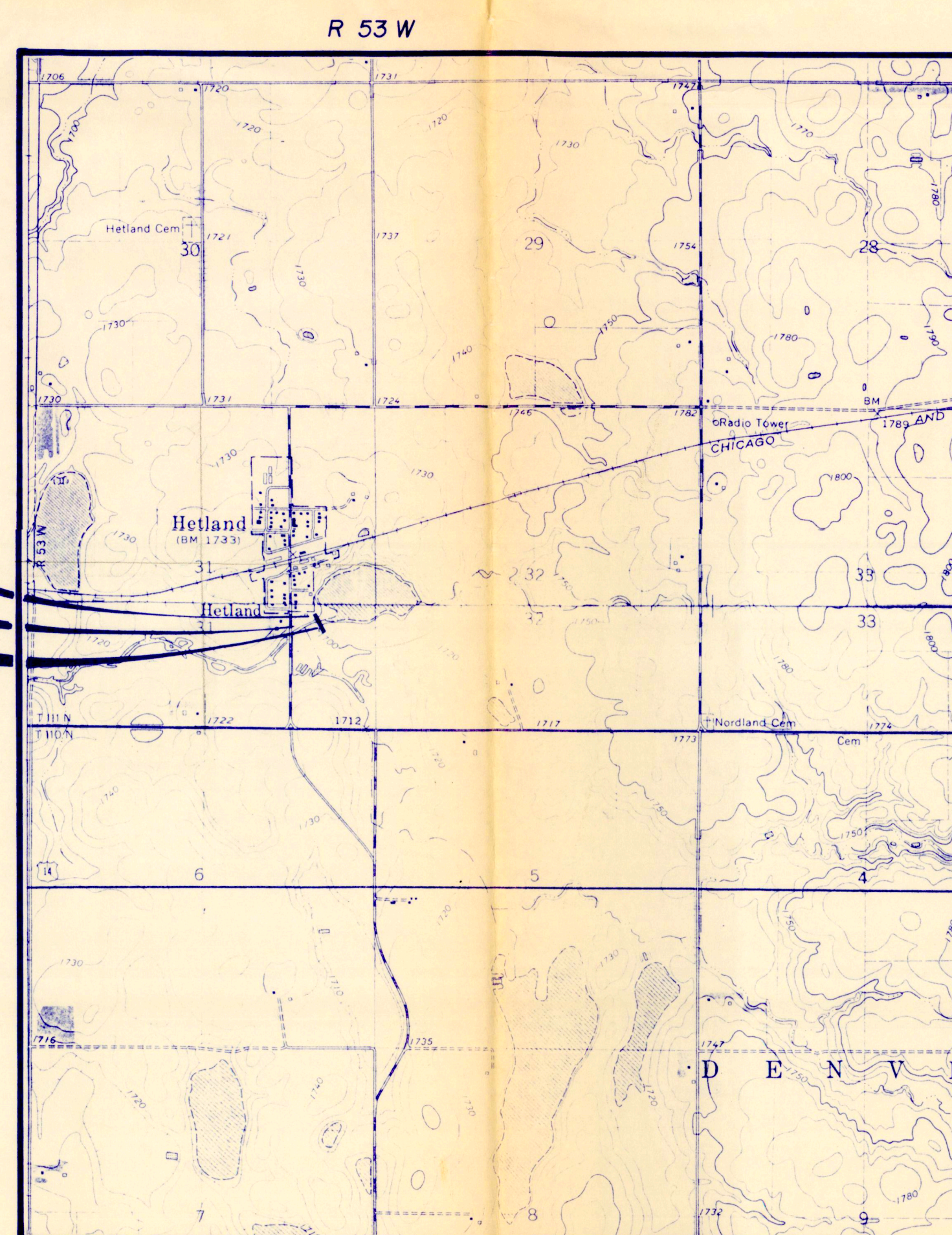
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- 2 PROJECT TOPOGRAPHY
- 3 SITE PLAN & DETAILS
- 4 STRUCTURE DETAILS

ESTIMATED QUANTITIES

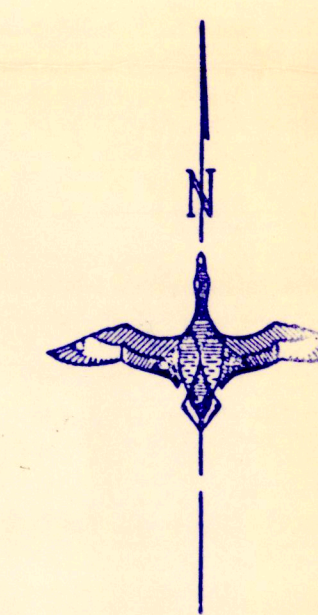
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SHEET PILE	1,086 S.F.
H-PILE	37 L.F.

* INCLUDES 15% SHRINKAGE FACTOR

SIGN 'B' LOCATION
SIGN 'A' LOCATION
EMBANKMENT SITE

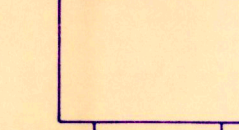


SITE PLAN
SCALE 1" = 2,000'



PROJECT SIGNING

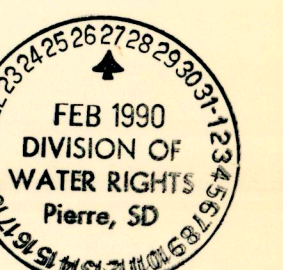
SIGN 'A' 24"x36"



SIGN 'B' 11"x14"

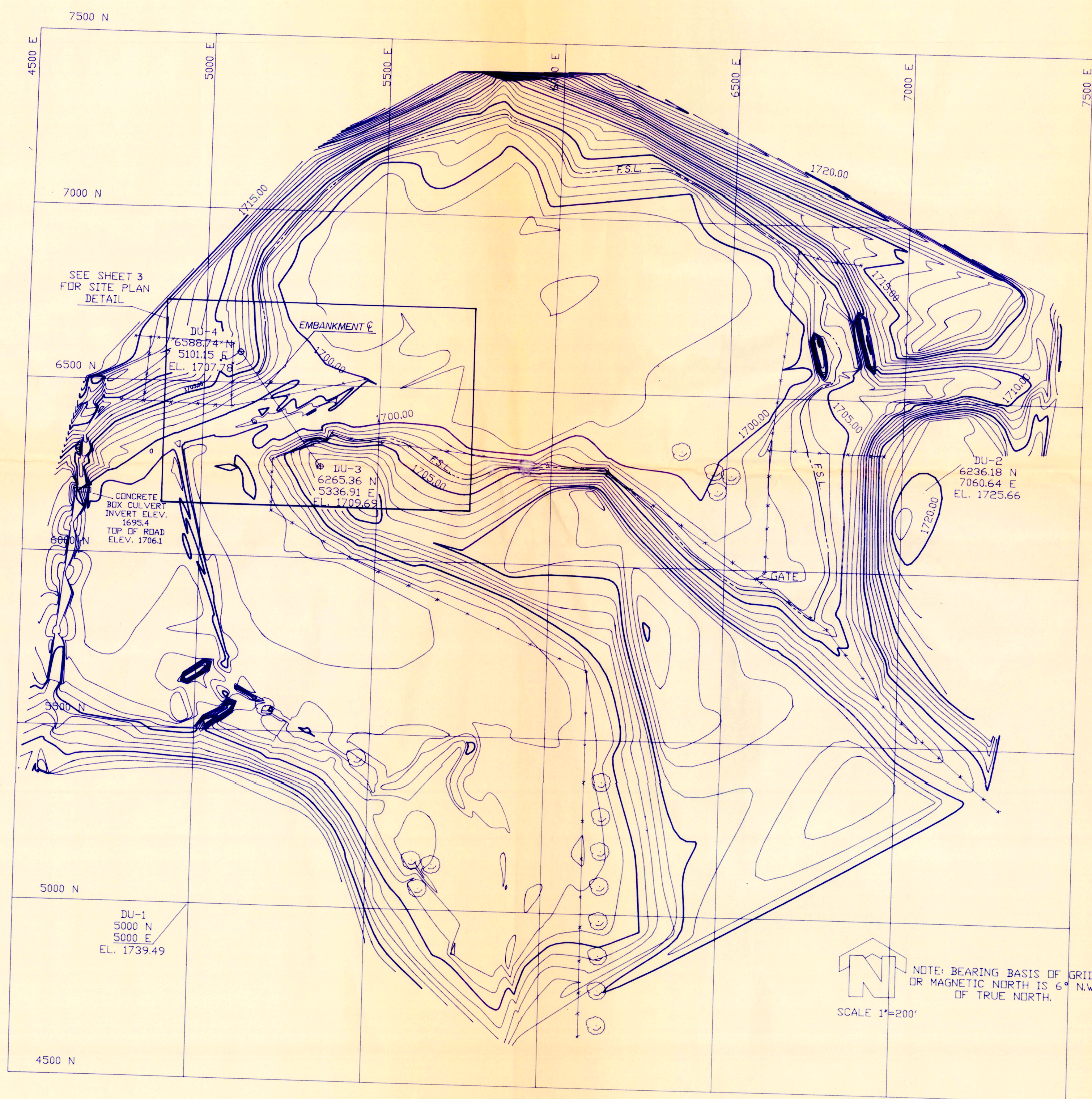


SIGN 'A' AND SIGN 'B' WILL BE PROVIDED BY DUCKS UNLIMITED AND DELIVERED TO THE CO-OPERATING AGENCY. THE AGENCY IS RESPONSIBLE FOR INSTALLING THE SIGNS AT LOCATIONS DESIGNATED ON THE PLANS.

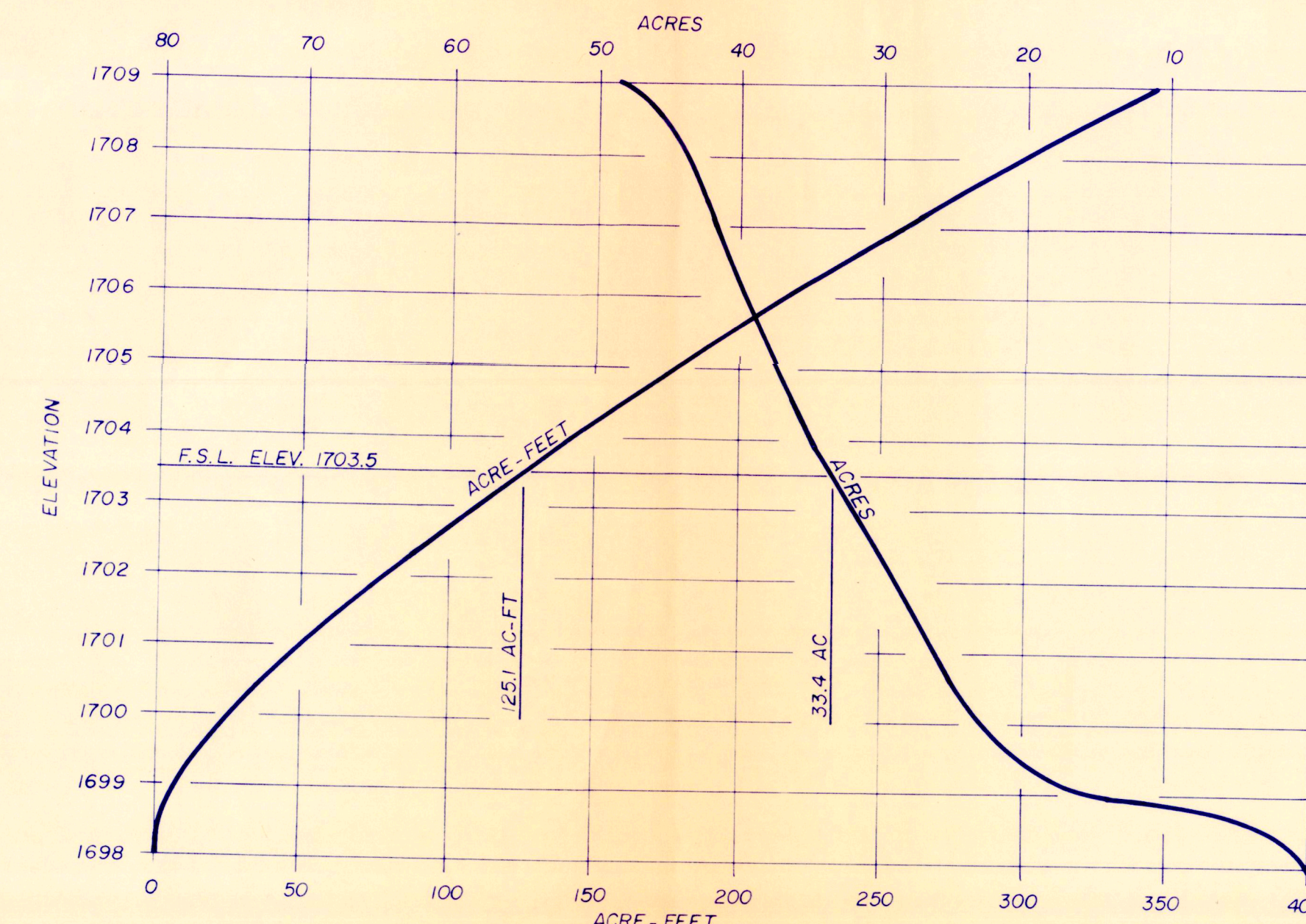
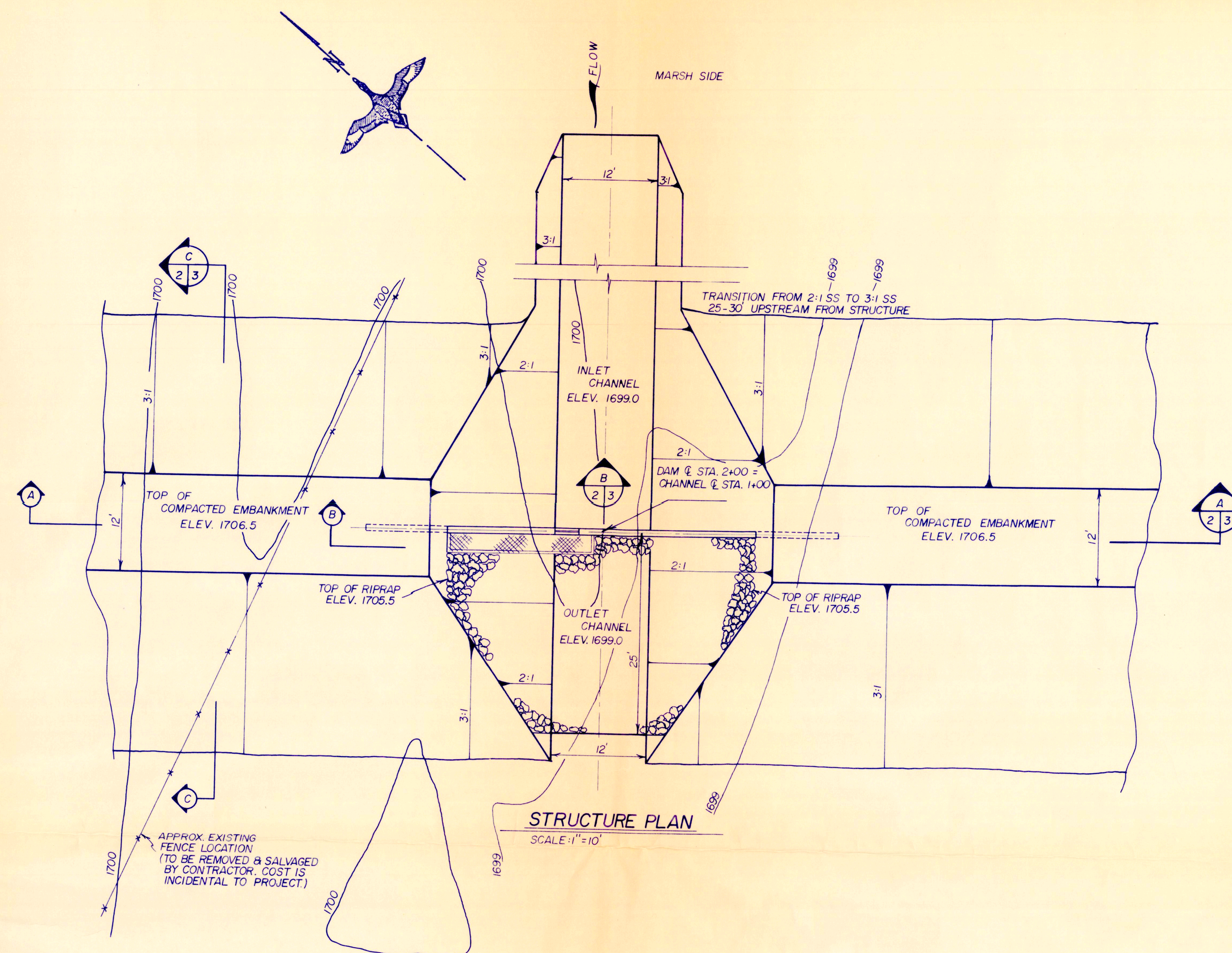


	DUCKS UNLIMITED INC.	PROJECT NO. DU-02-SD-078-001	DESIGNED BY D. J. I.
	GRAT PLAINS REGIONAL OFFICE	LAKE THOMPSON-OLE LAKE	DRAWN BY K. D. B.
VICINITY MAP		SURVEYED BY	
DATE	SHEET NO. 1	APPROVED BY	CHECKED BY

5432-3



PROJECT TOPOGRAPHY

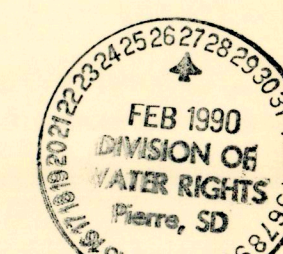
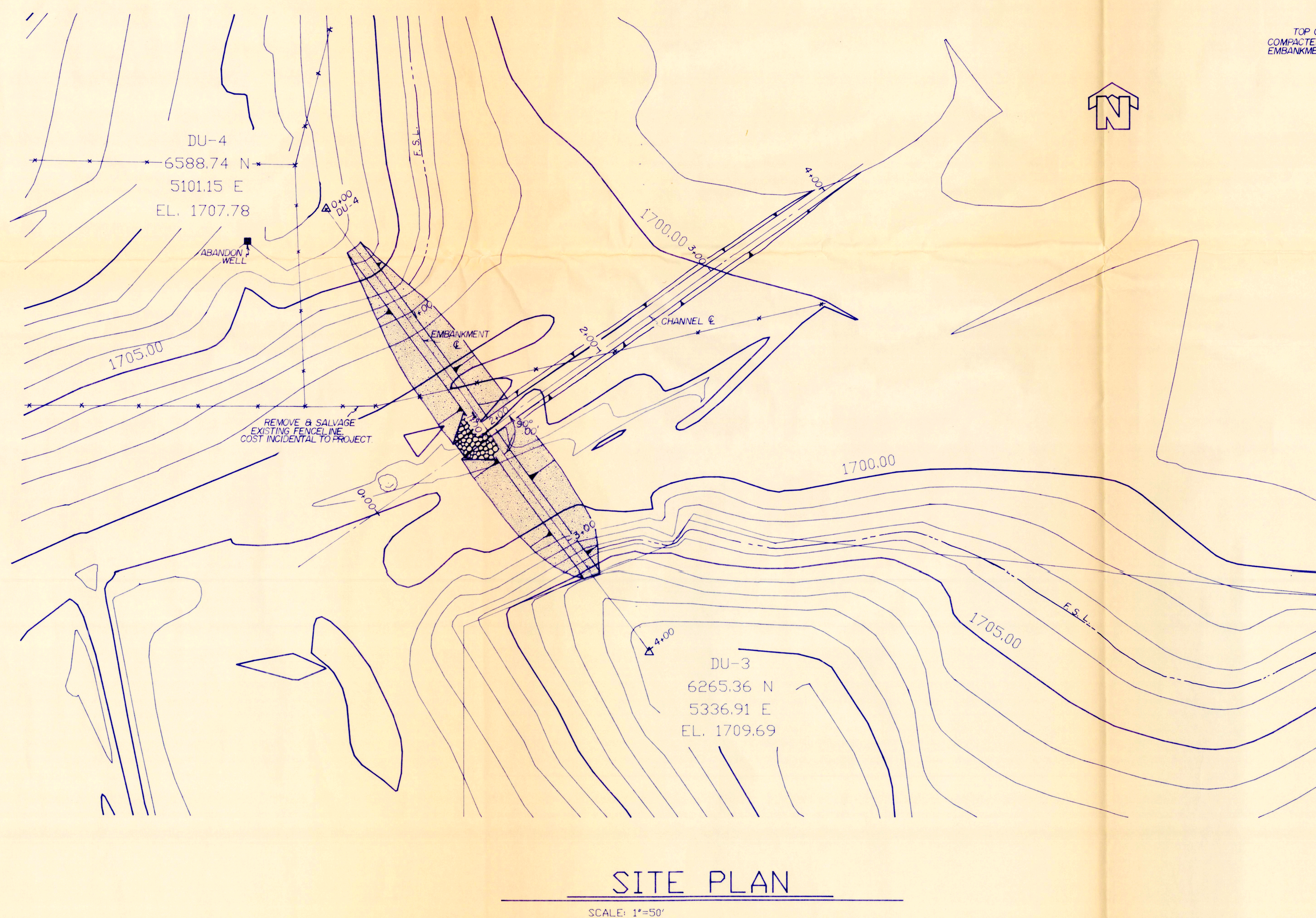
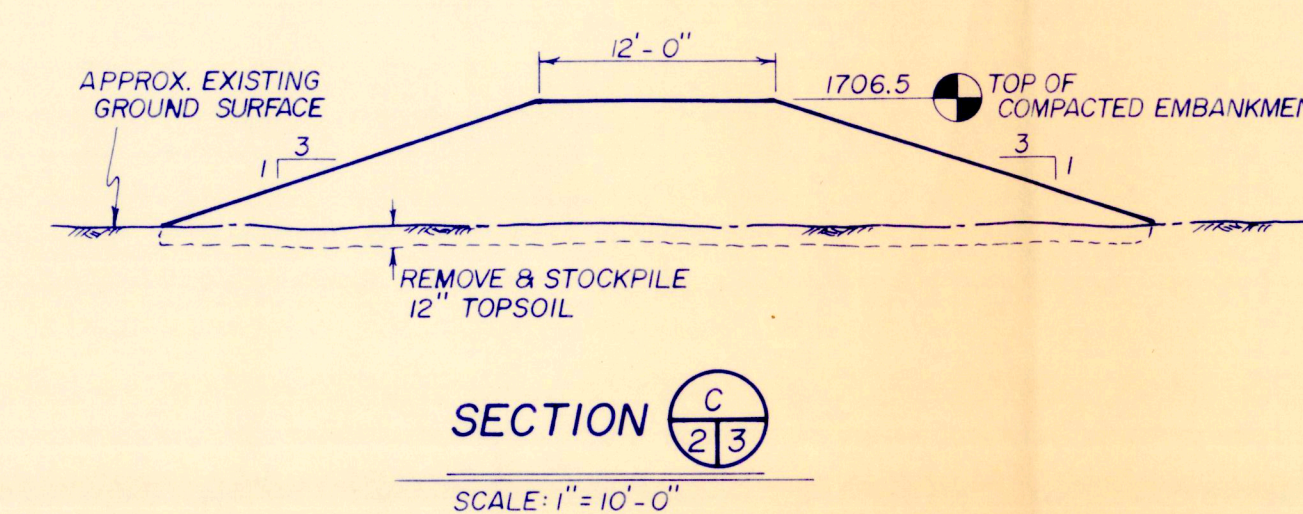
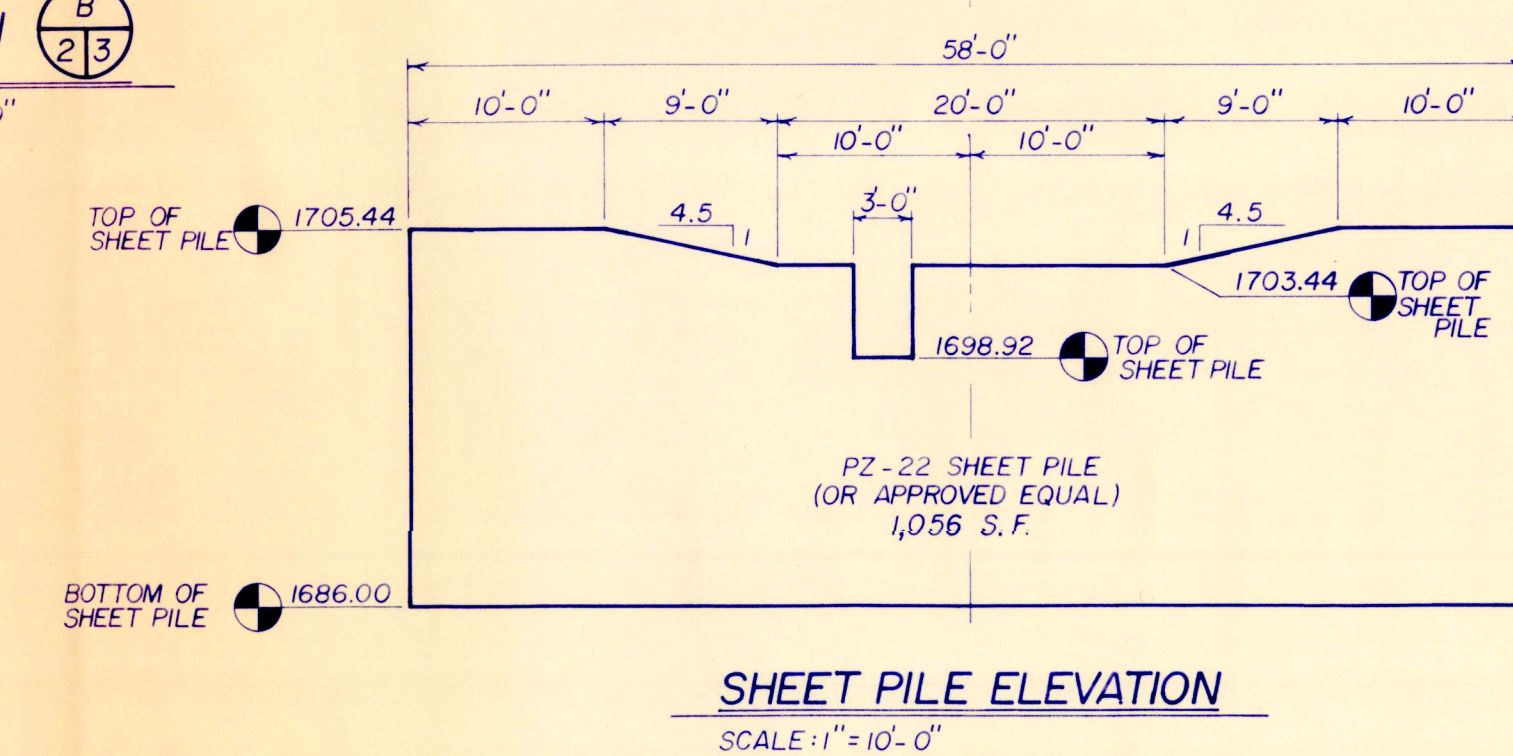
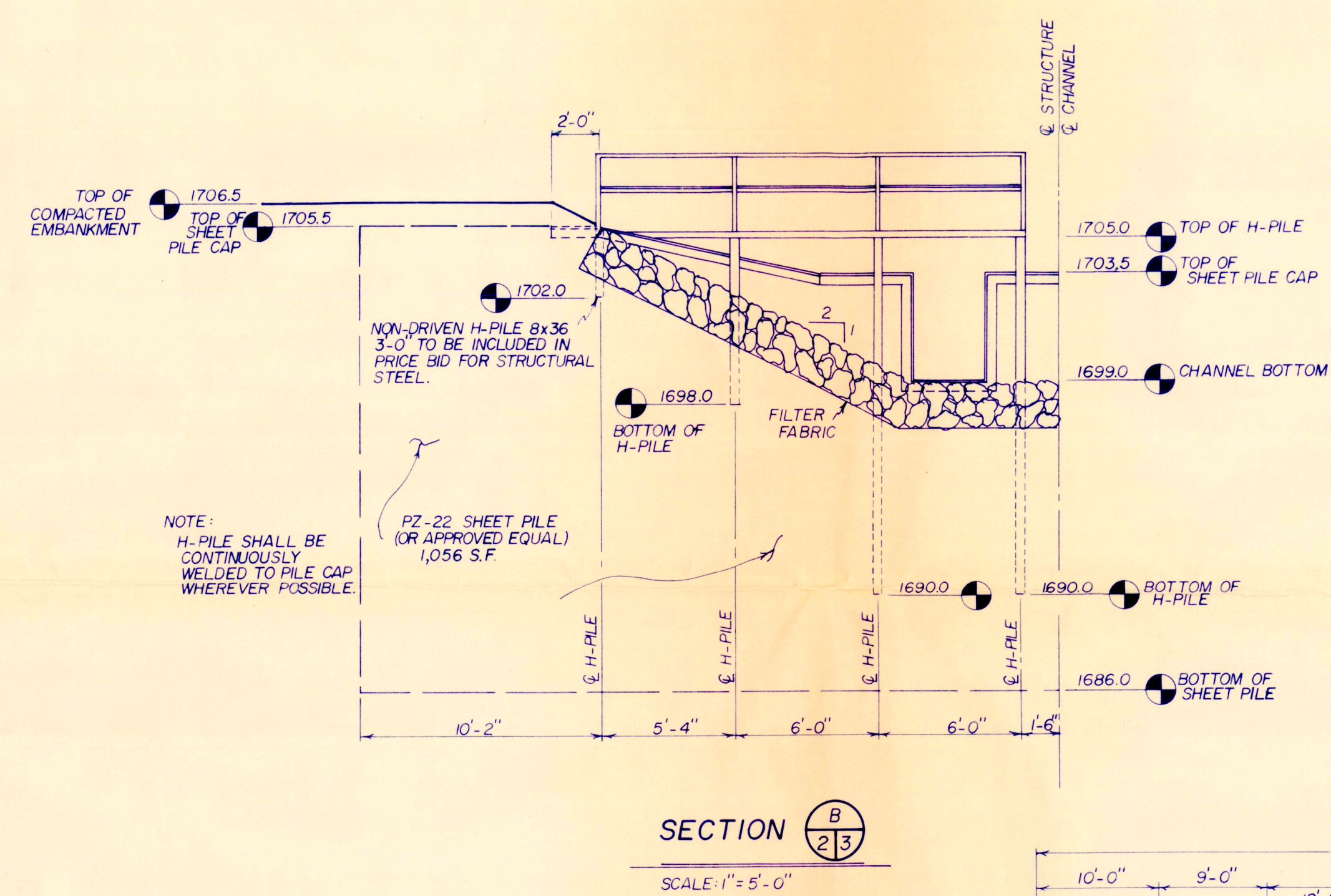
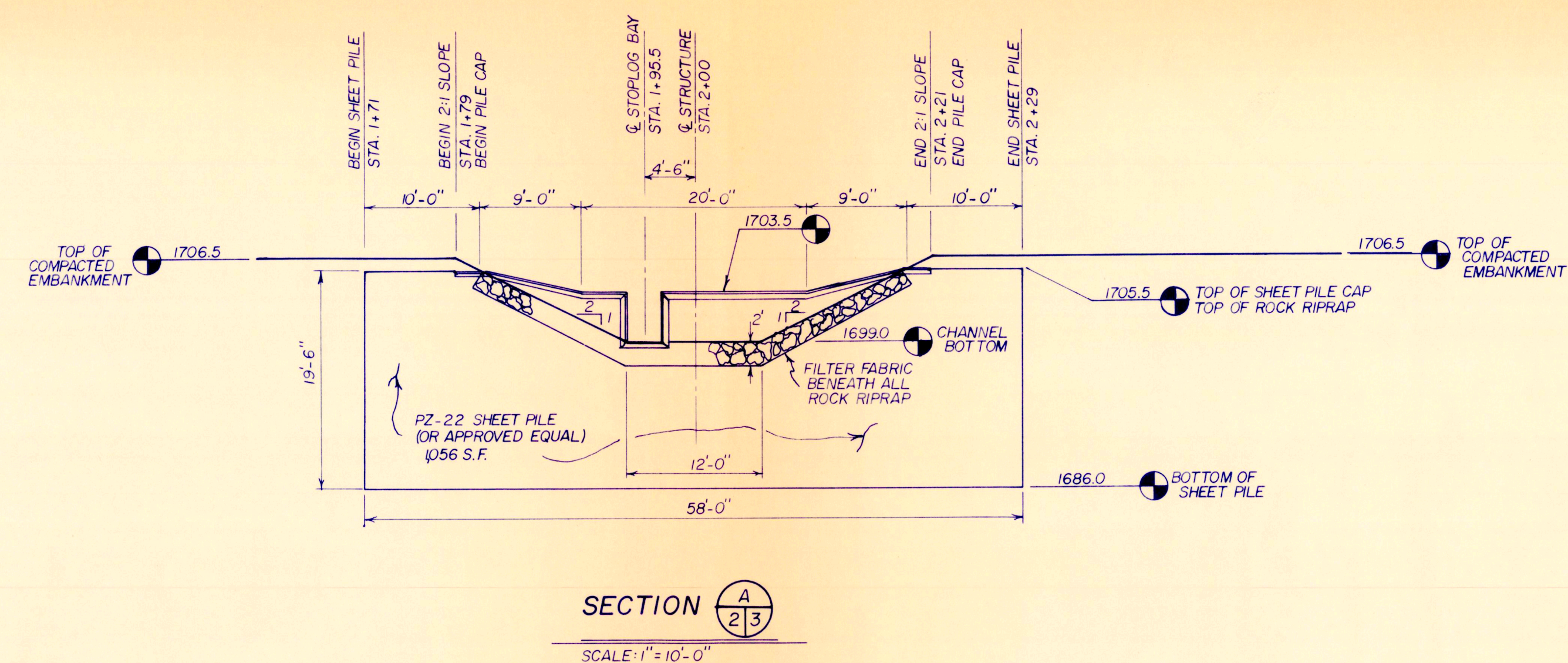
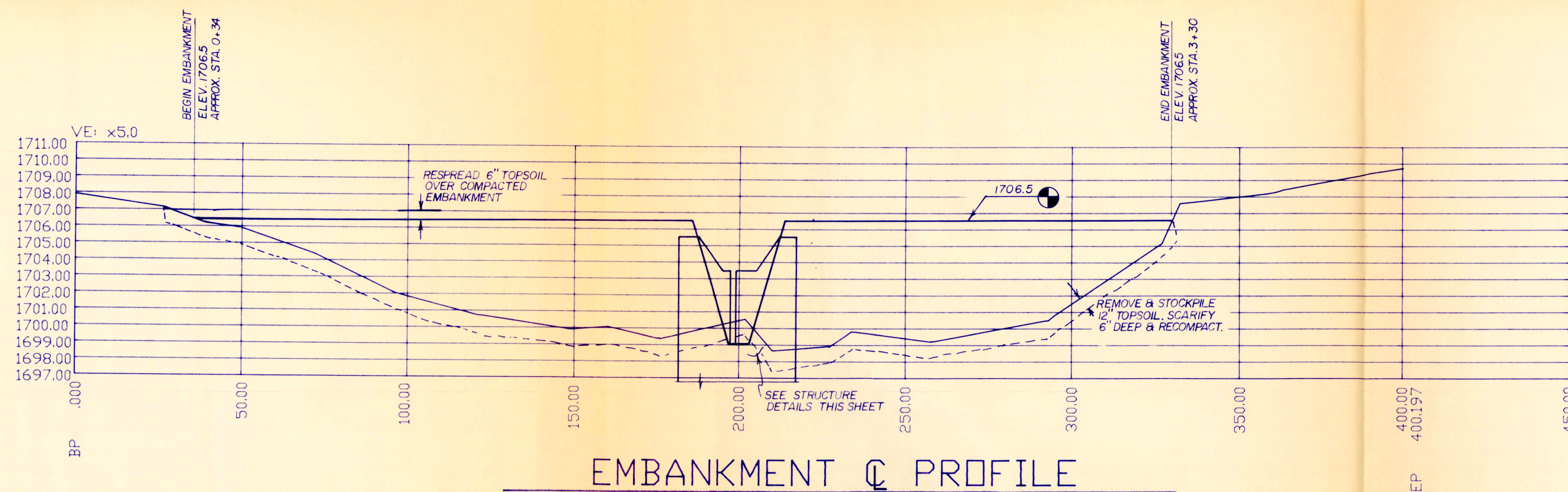


AREA-CAPACITY CURVE

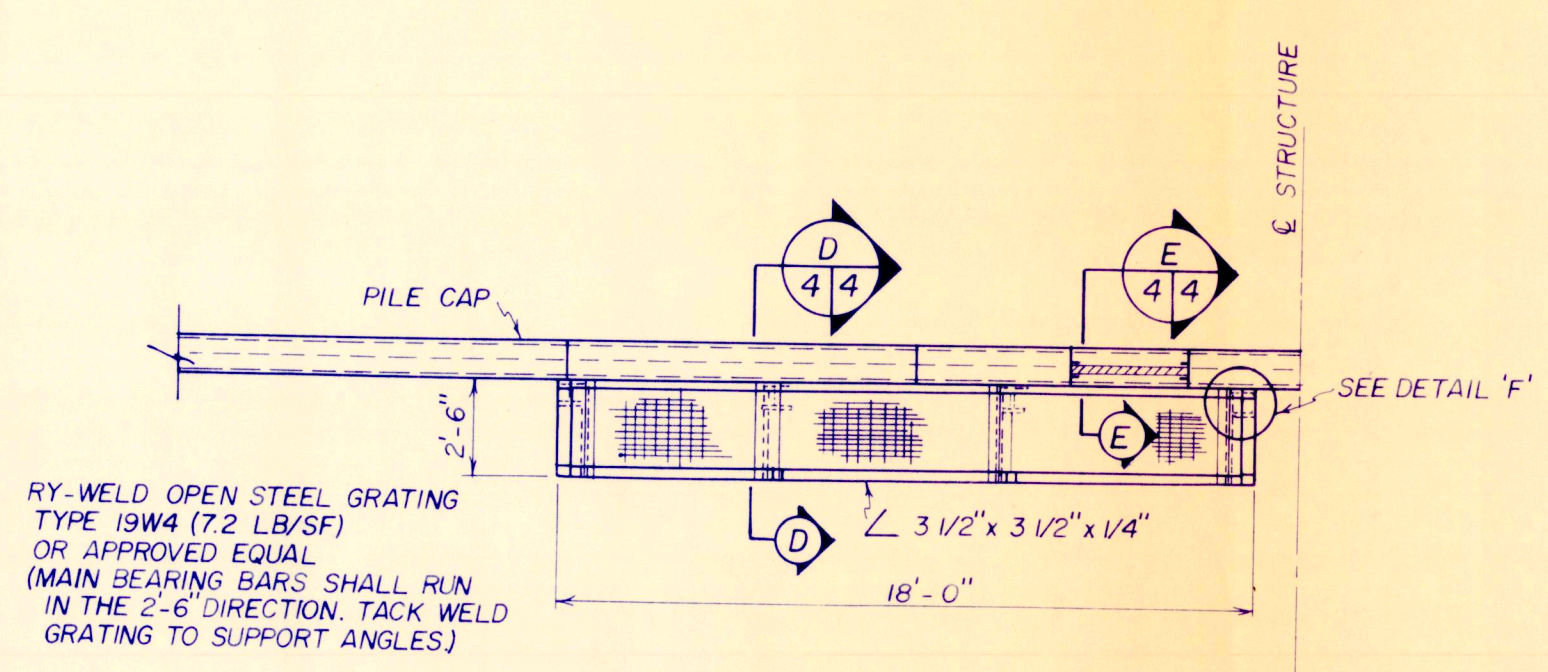
DUCKS UNLIMITED INC.	PROJECT NO. DU-02 SD-078-001	DESIGNED BY: D.J.L.
	LAKE THOMPSON-OLE LAKE	DRAWN BY: K.D.B.
GREAT PLAINS REGIONAL OFFICE	PROJECT TOPOGRAPHY	SURVEYED BY:
DATE	SHEET NO. 2	APPROVED BY:

PRELIMINARY

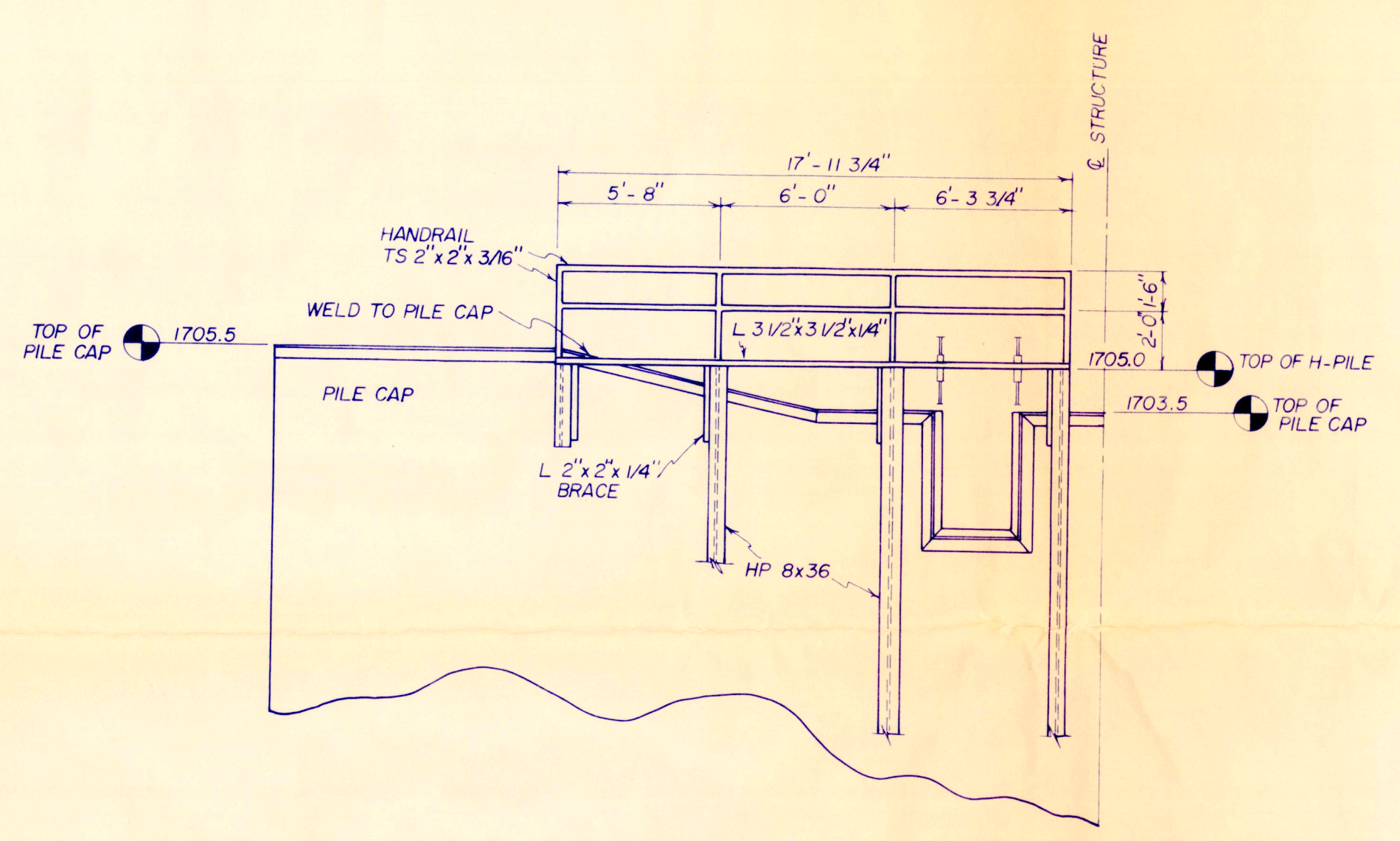
FEB 1990
DIVISION OF
WATER RIGHTS
Pierre, SD



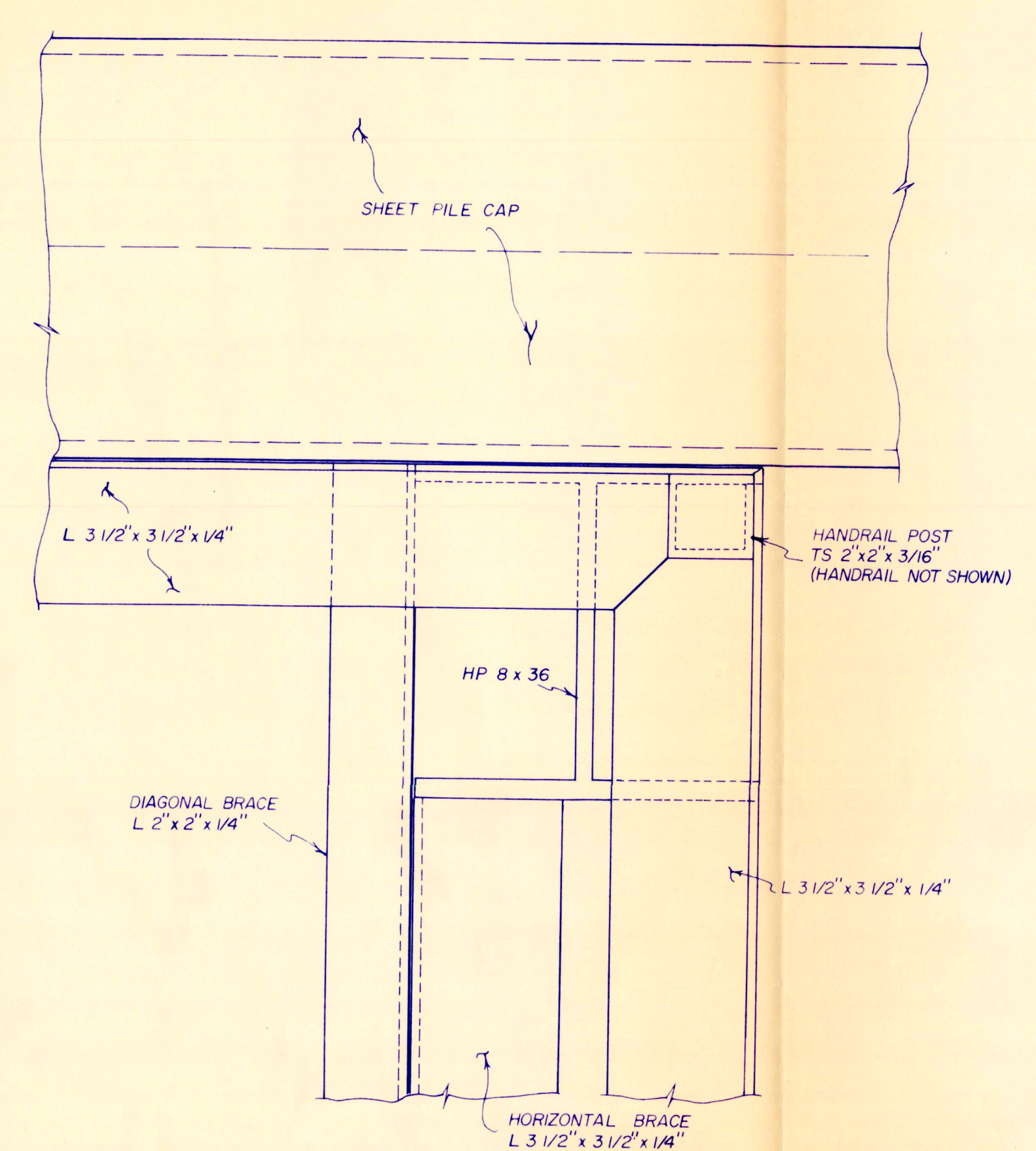
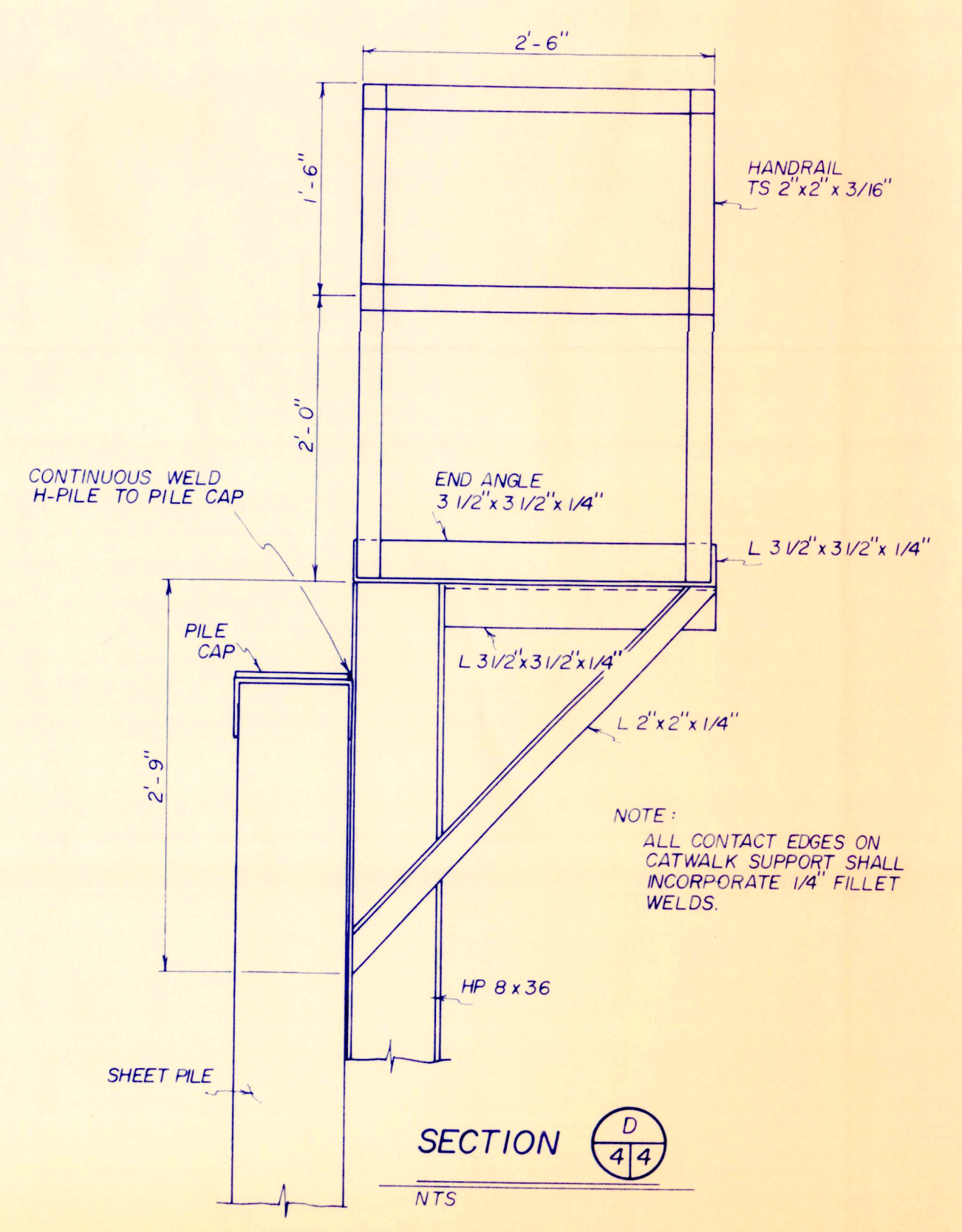
5432-3



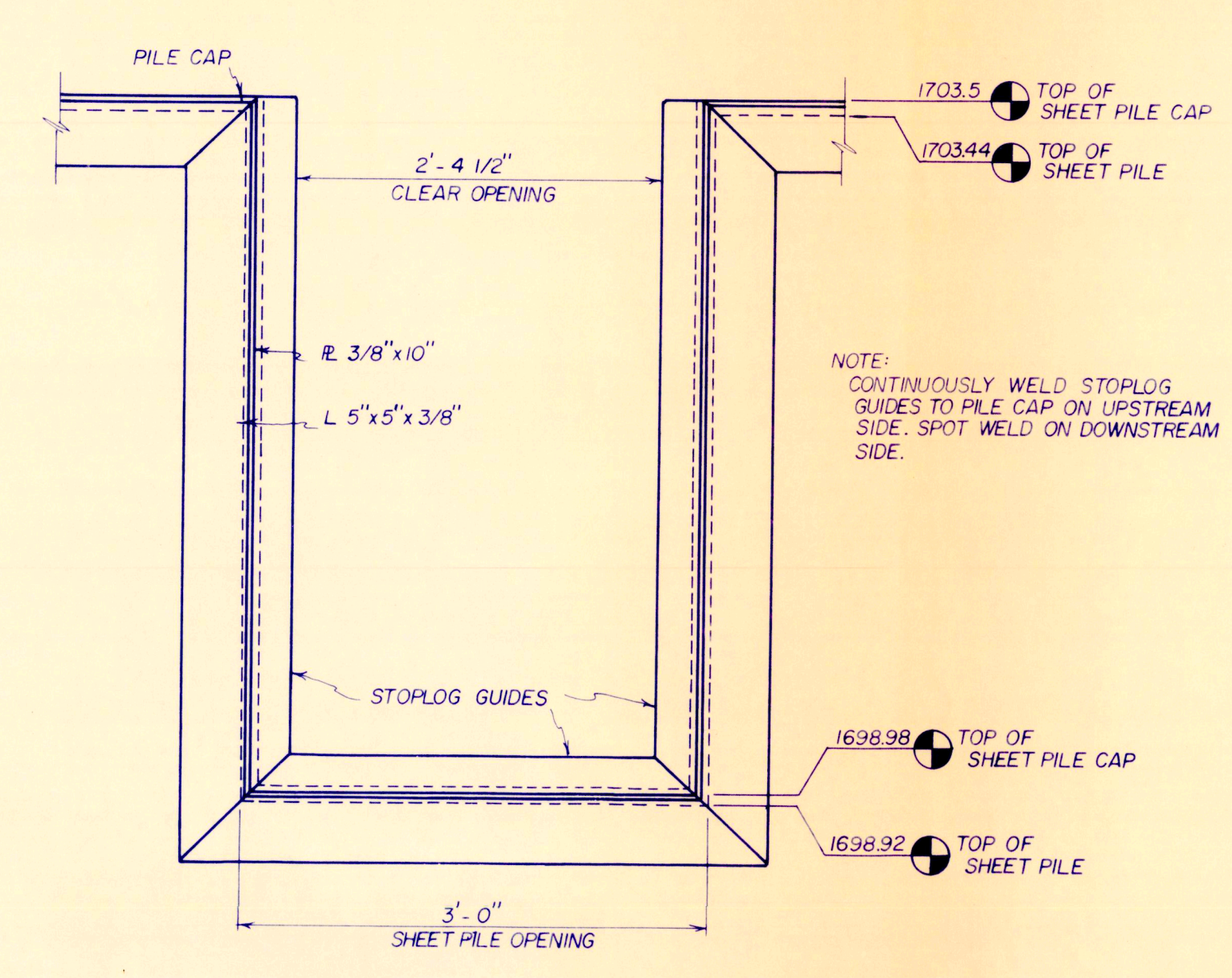
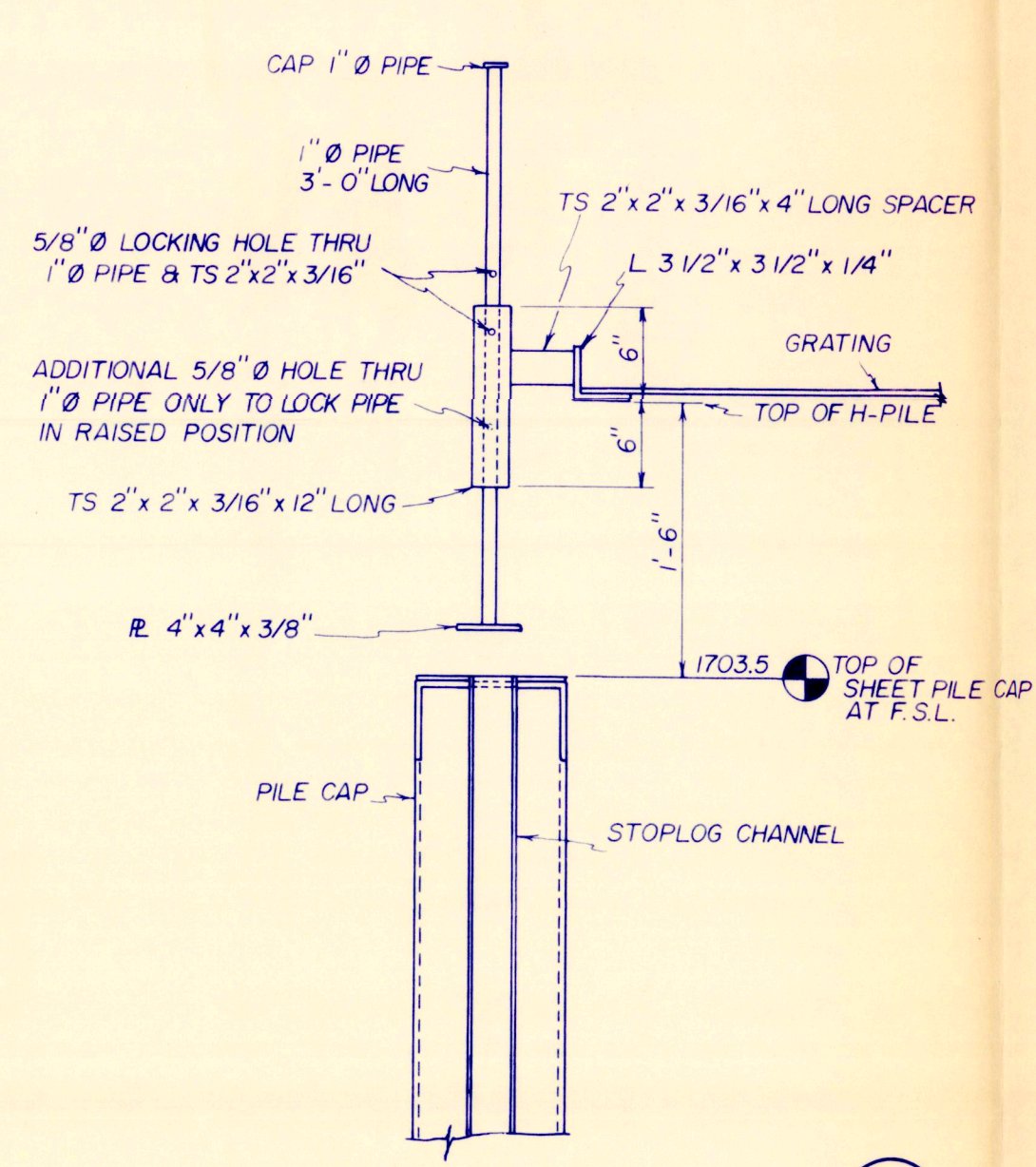
CATWALK FRAMING PLAN
SCALE: 1" = 5'-0"



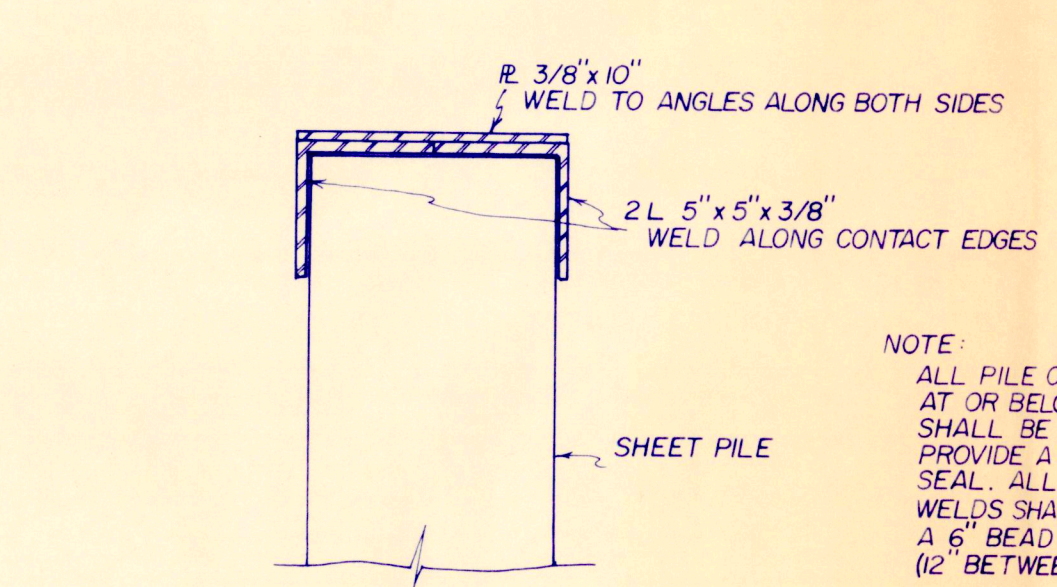
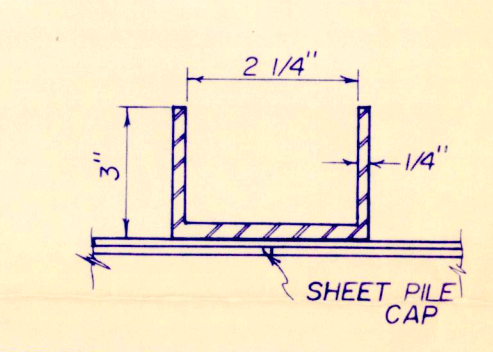
CATWALK ELEVATION
SCALE: 1" = 5'-0"



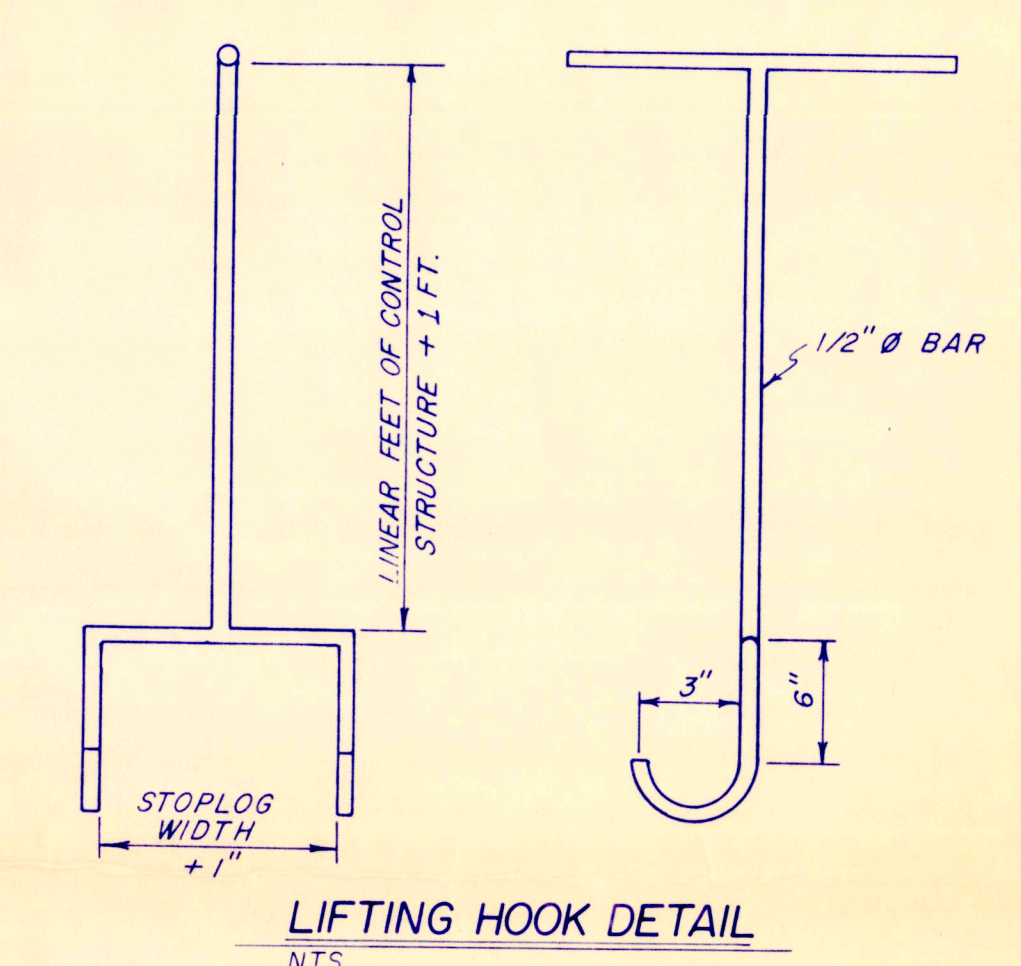
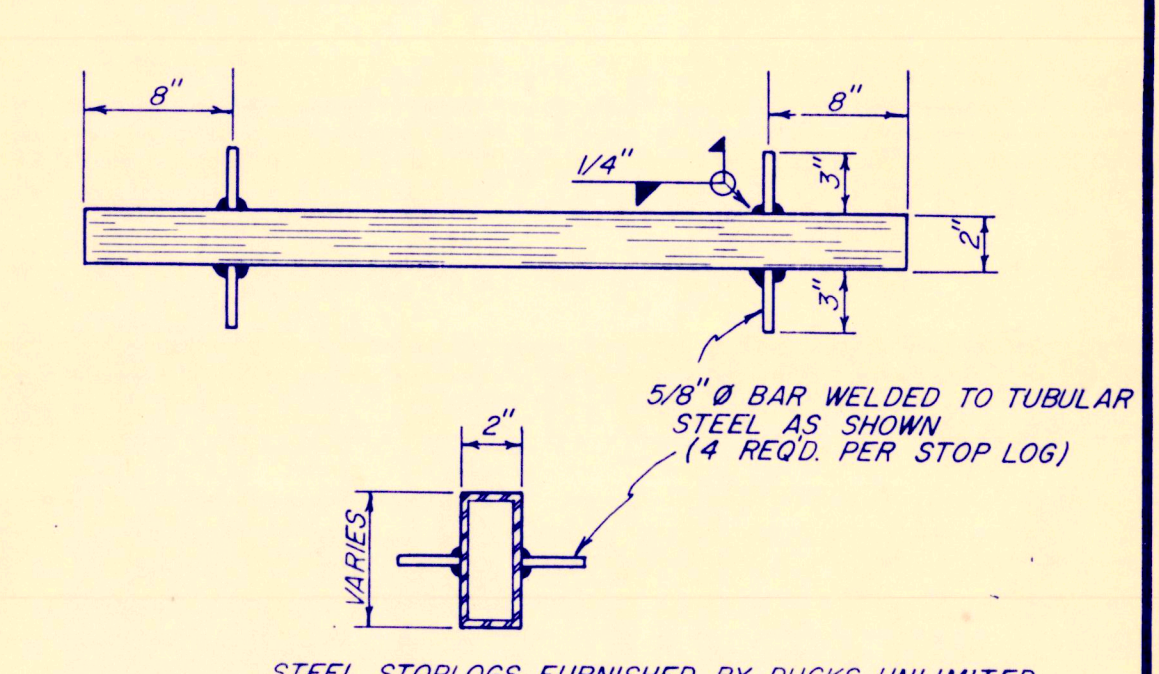
DETAIL 'F'
NTS



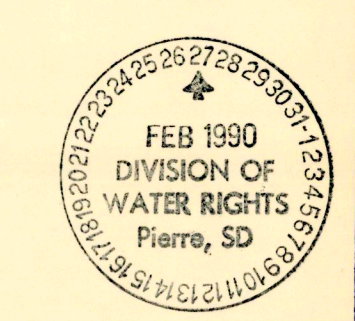
STOPLOG BAY DETAIL
SCALE: 1" = 4'-0"



SHEET PILE CAP DETAIL
NTS



	PROJECT NO. DU-02-SD-078-001	DESIGNED BY: D.J.L.
	LAKE THOMPSON-OLE LAKE	DRAWN BY: K.D.B.
GREAT PLAINS REGIONAL OFFICE	STRUCTURE DETAILS	SURVEYED BY:
DATE:	SHEET NO. 4	CHECKED BY:
APPROVED BY:		APPROVED BY:



WR # 5432-3



DUCKS UNLIMITED

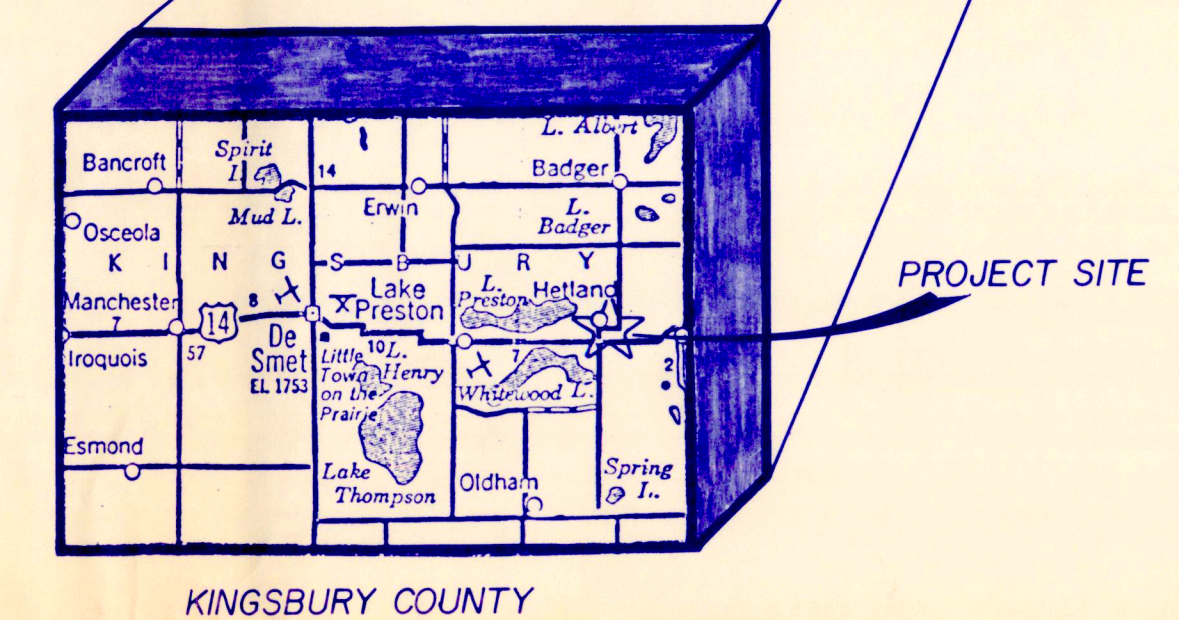
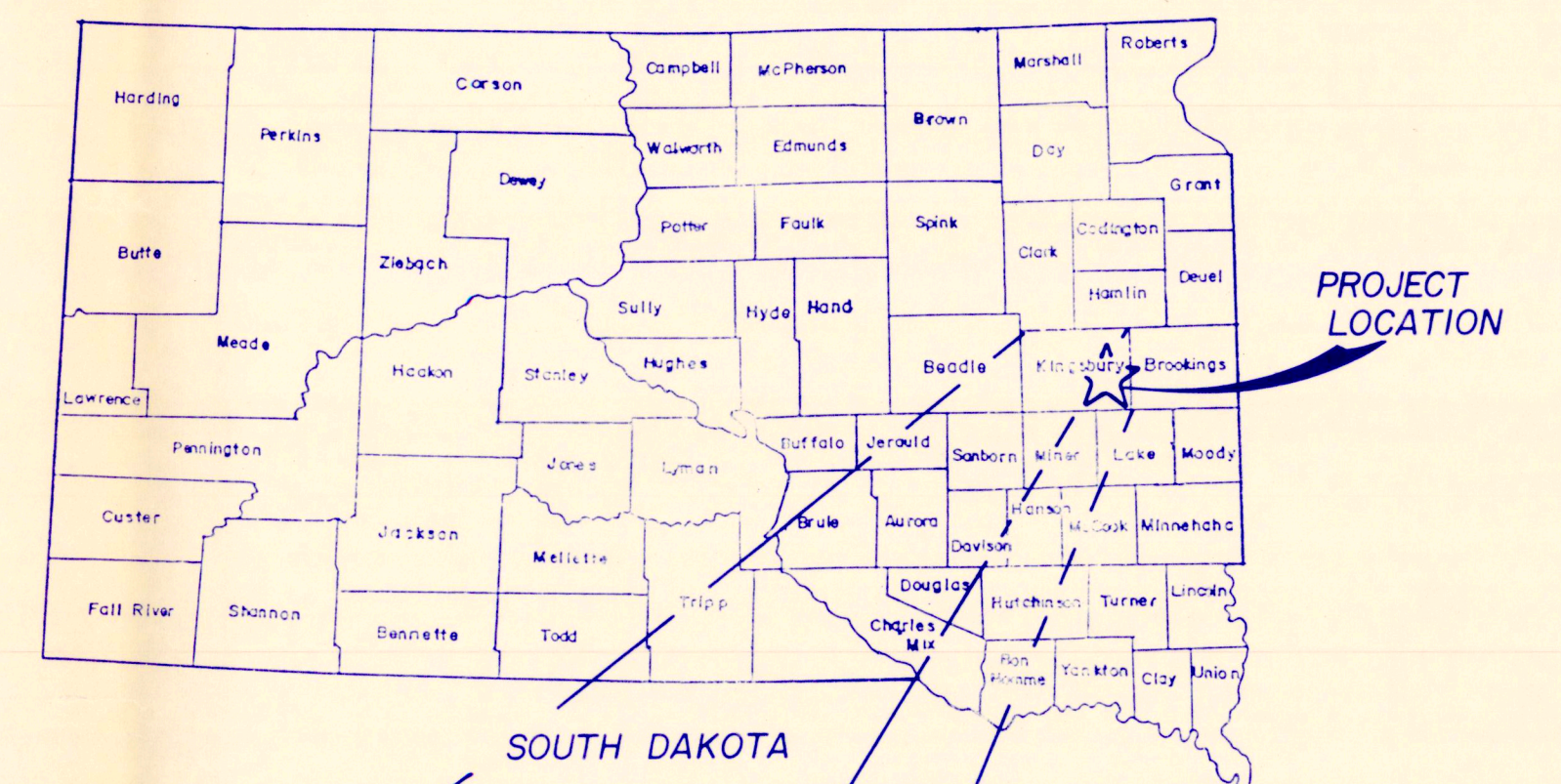
PROJECT

LAKE THOMPSON - OLE LAKE PRAIRIE POTHOLE JOINT VENTURE

SECTIONS 31 & 32, TOWNSHIP III NORTH, RANGE 53 WEST, KINGSBURY CO., SOUTH DAKOTA

IN COOPERATION WITH

U.S. FISH & WILDLIFE SERVICE



SPECIFICATIONS

- 101 GENERAL CONDITIONS
- 201 MOBILIZATION
- 202 SITE PREPARATION
- 203 EXCAVATION
- 204 EMBANKMENT CONSTRUCTION
- 205 WATER
- 209 RIPRAP PLACEMENT
- 214 SHEET PILE MATERIAL
- 215 SHEET PILE INSTALLATION
- 216 STRUCTURAL STEEL
- 217 STEEL H-PILES

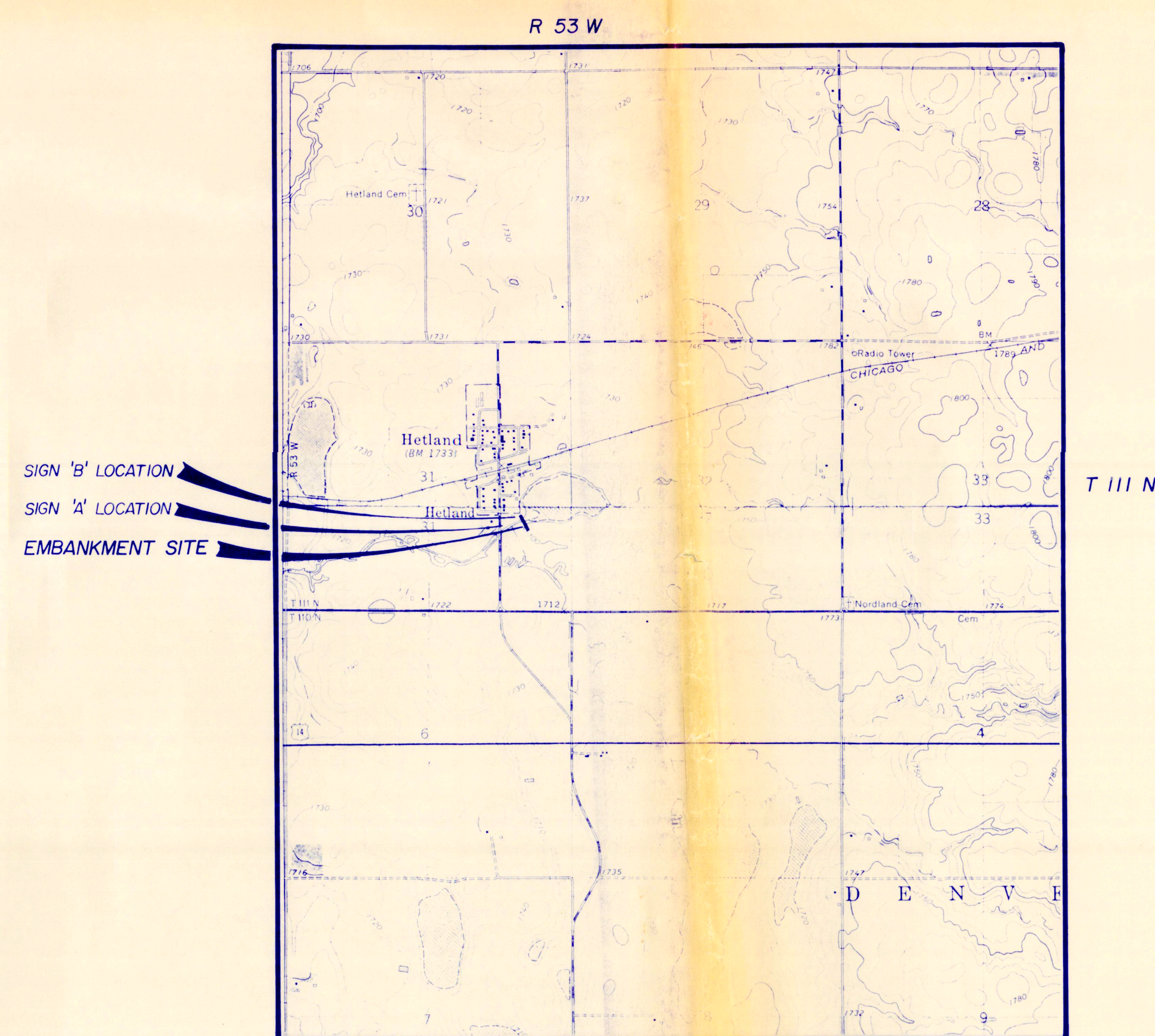
PLAN INDEX

- 1 VICINITY MAP
- 2 PROJECT TOPOGRAPHY
- 3 SITE PLAN & DETAILS
- 4 STRUCTURE DETAILS
- 5 SOILS INFORMATION

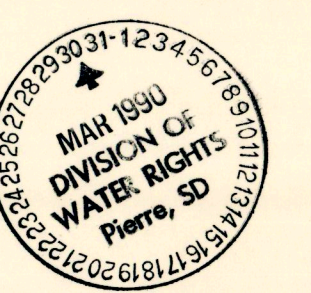
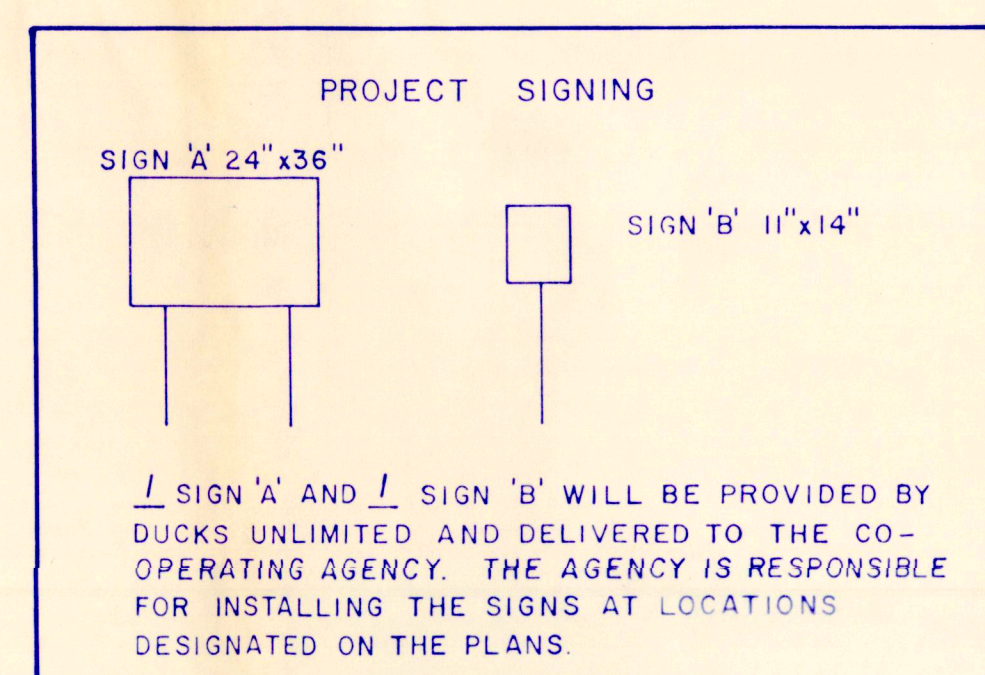
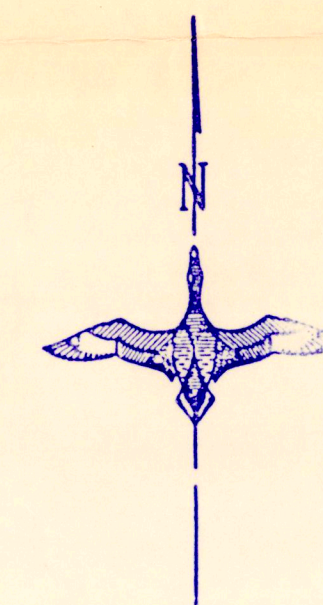
ESTIMATED QUANTITIES

SITE PREPARATION	447 C.Y.
EXCAVATION	133 C.Y.
EMBANKMENT*	2,230 C.Y.
RIPRAP	60 C.Y.
SHEET PILE	1,056 S.F.
H-PILE	37 L.F.

* INCLUDES 15% SHRINKAGE FACTOR

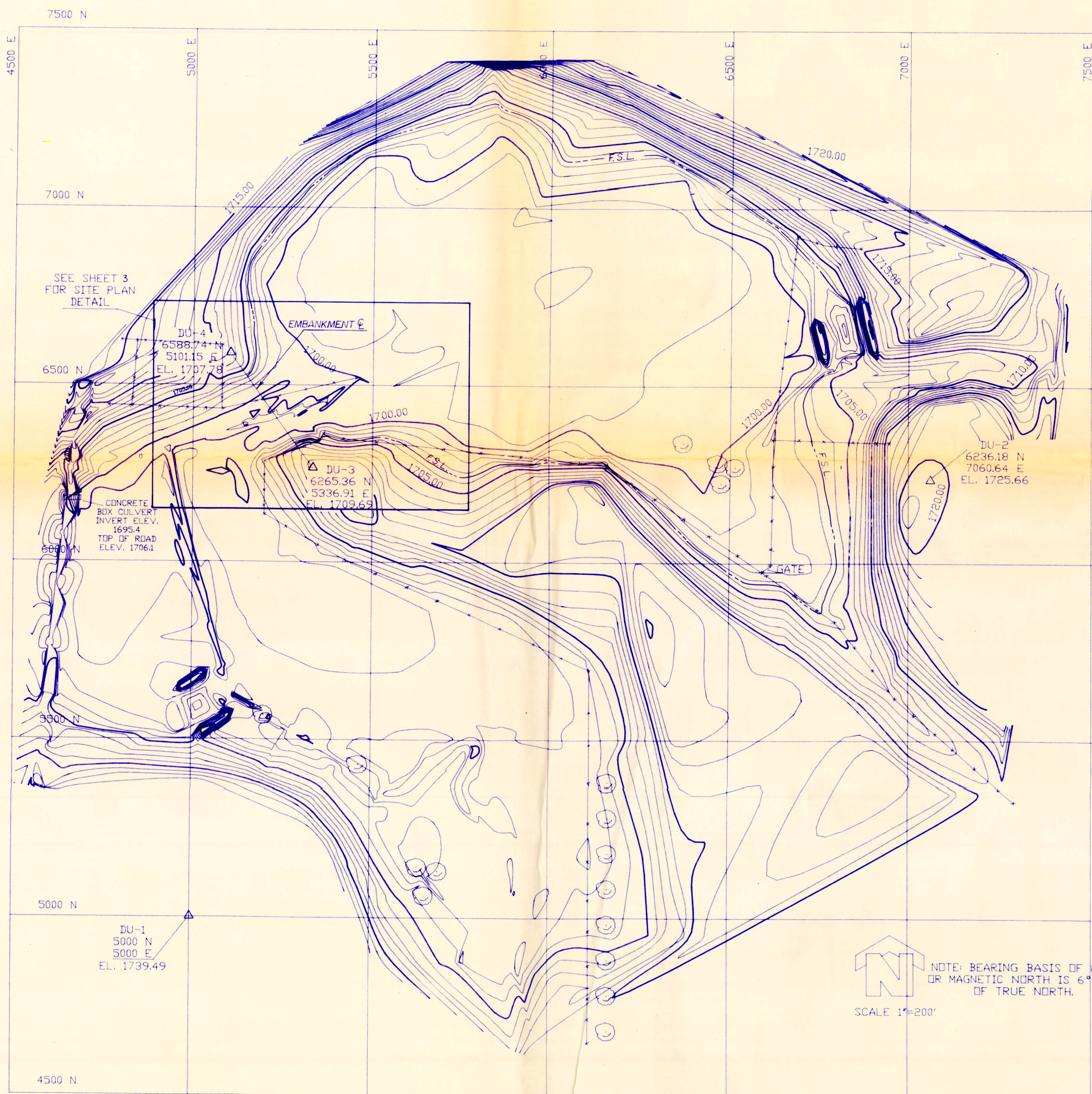


SITE PLAN
SCALE: 1" = 2,000'

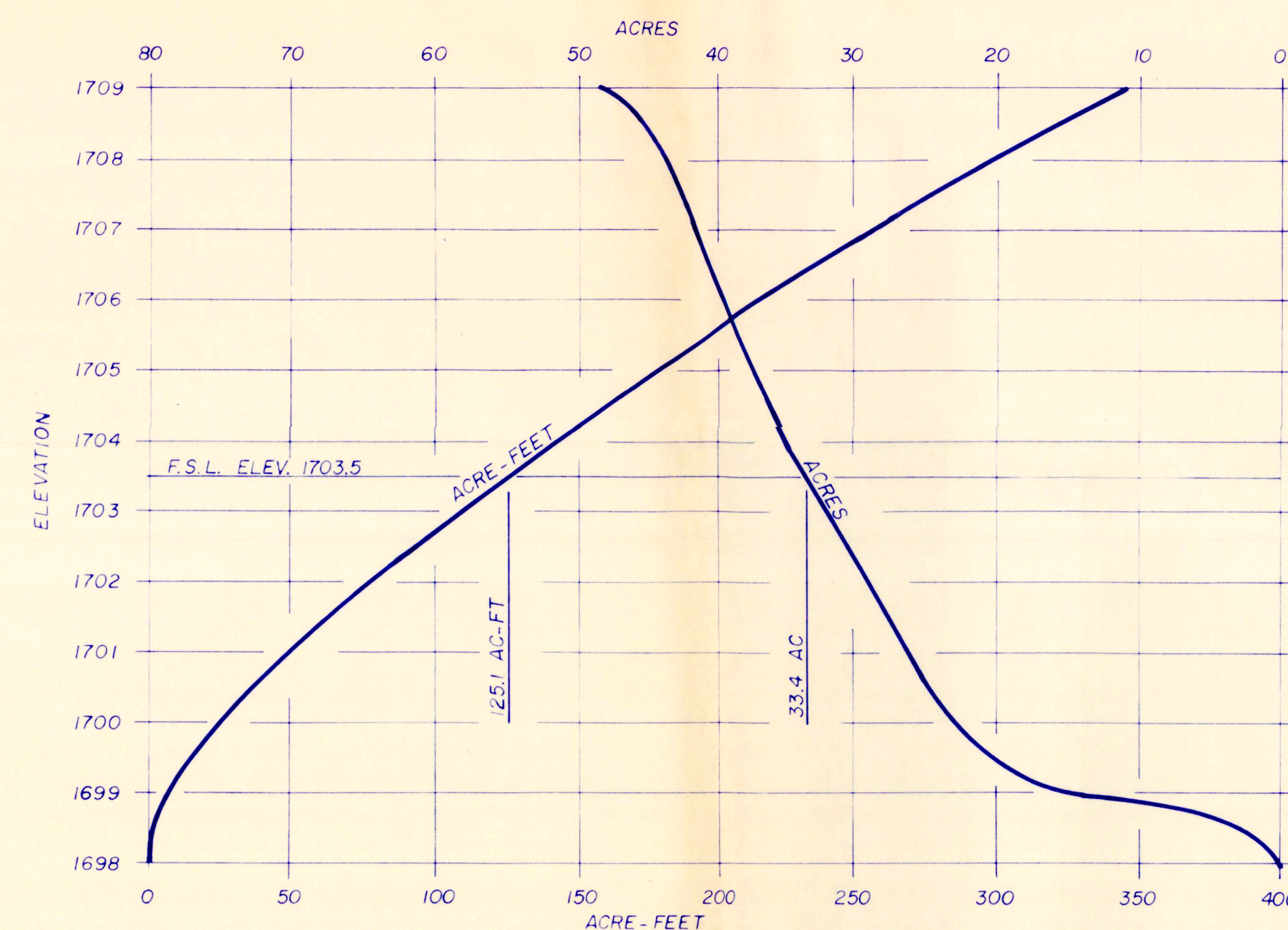
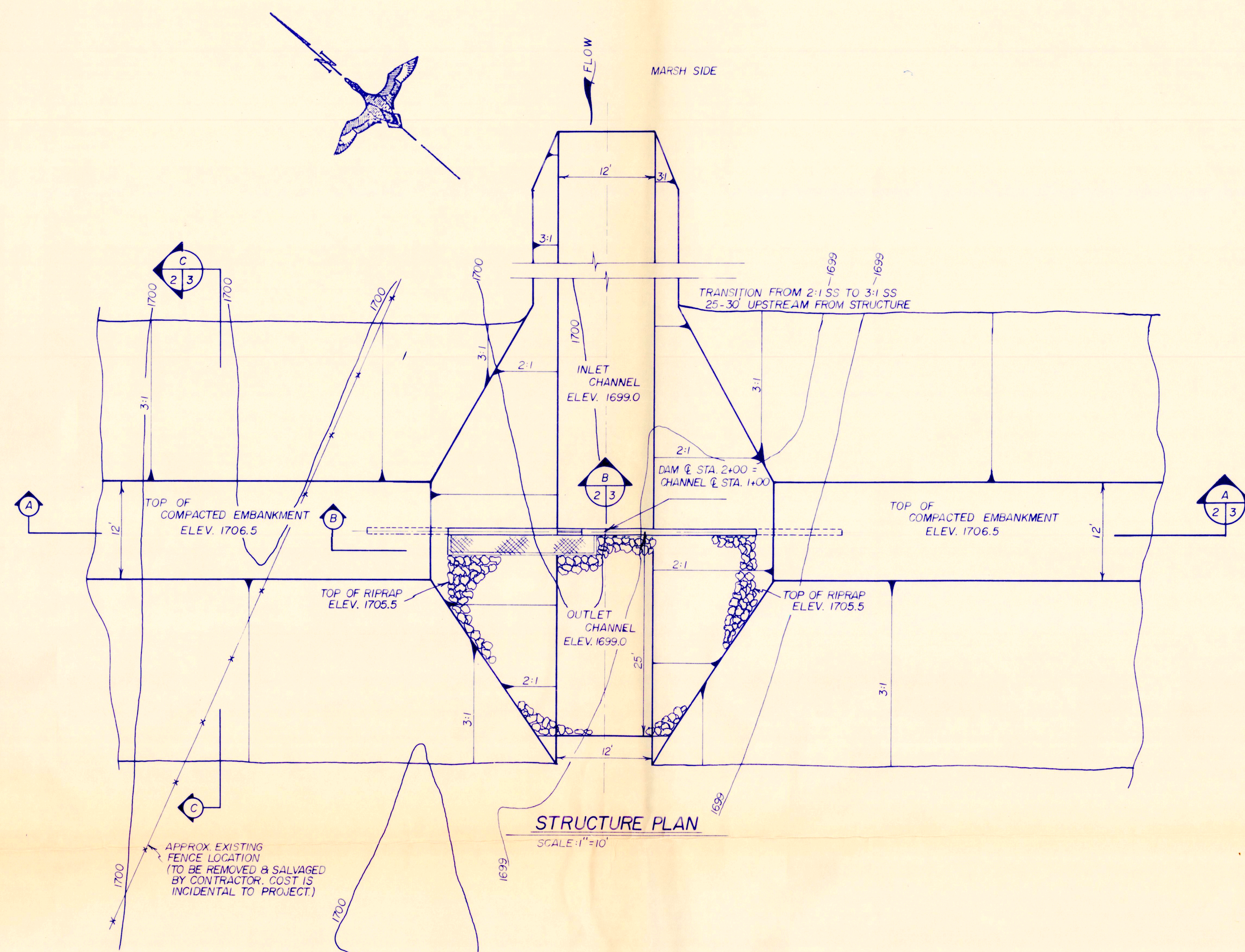


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DATE	SHEET NO. 1 of 5	APPROVED BY	CHECKED BY

App'l. No. 5432-3



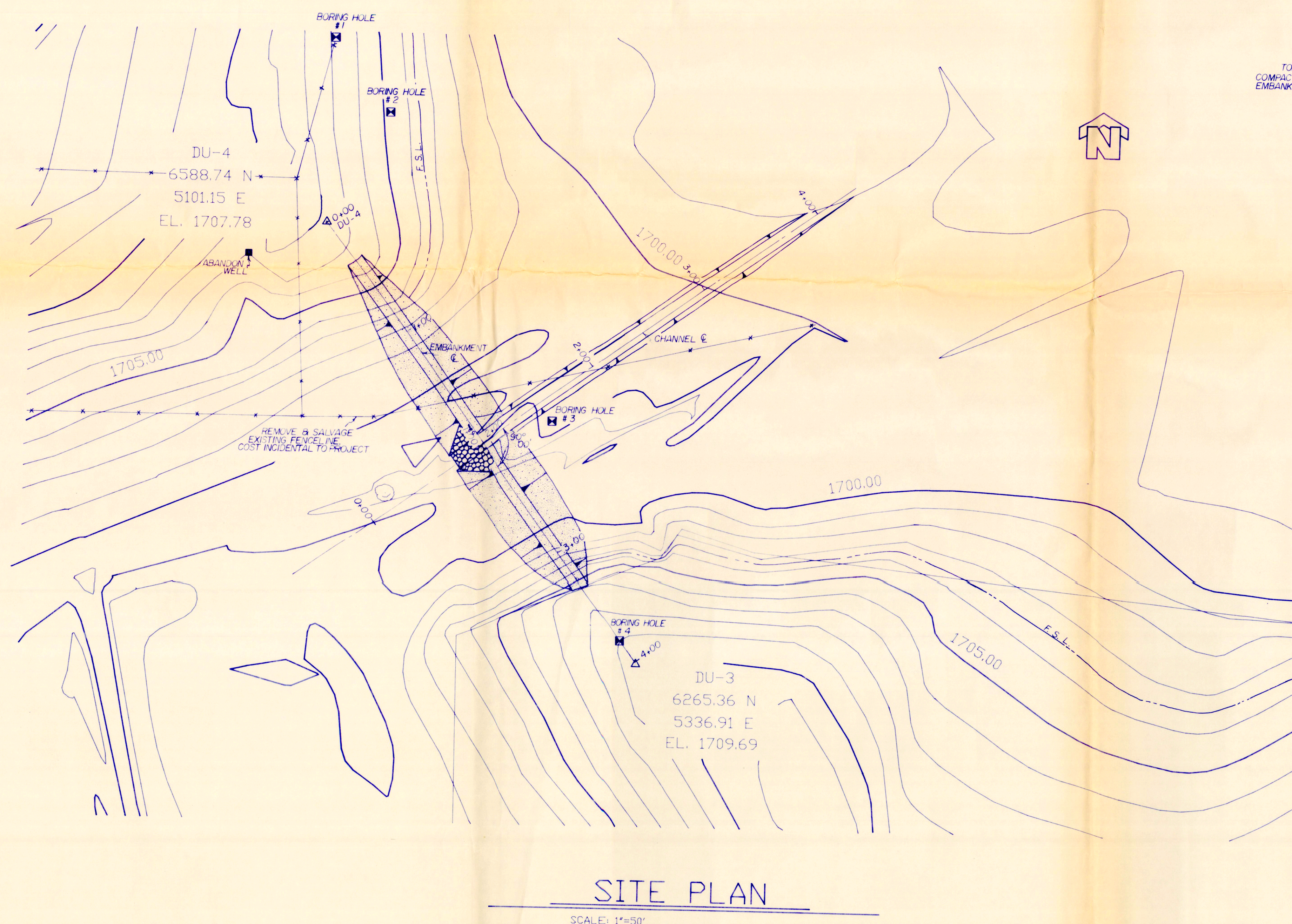
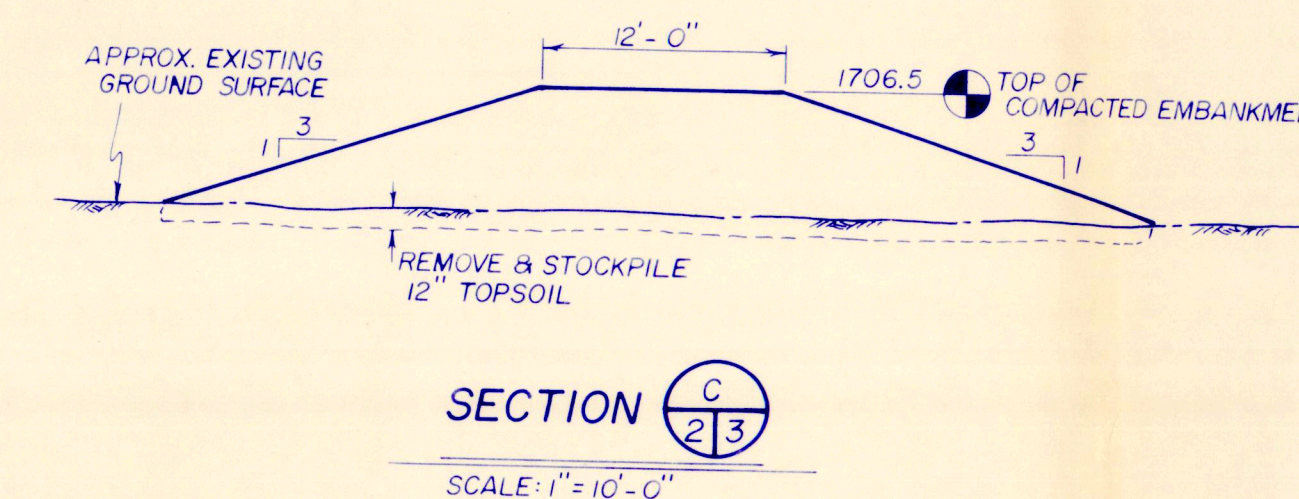
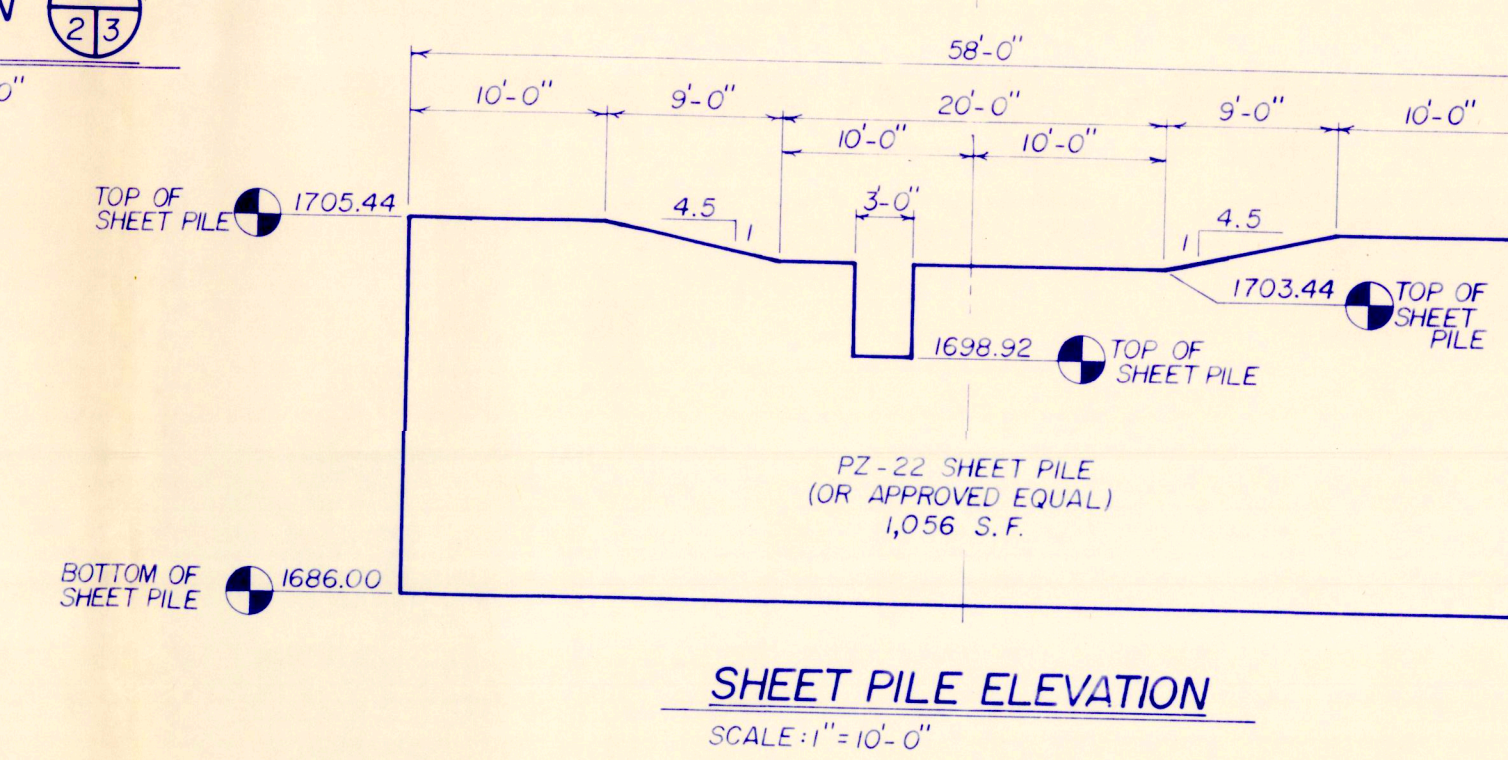
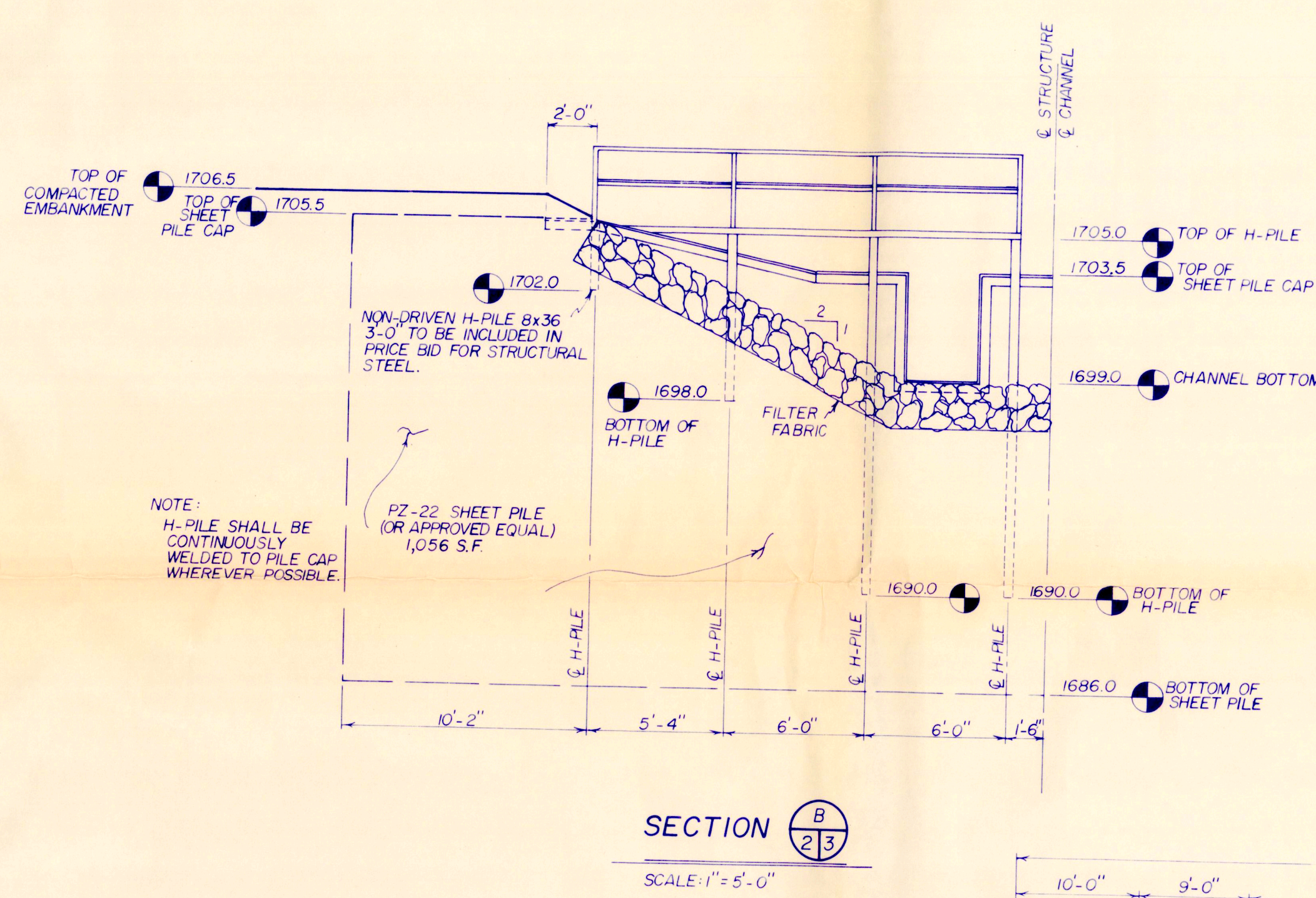
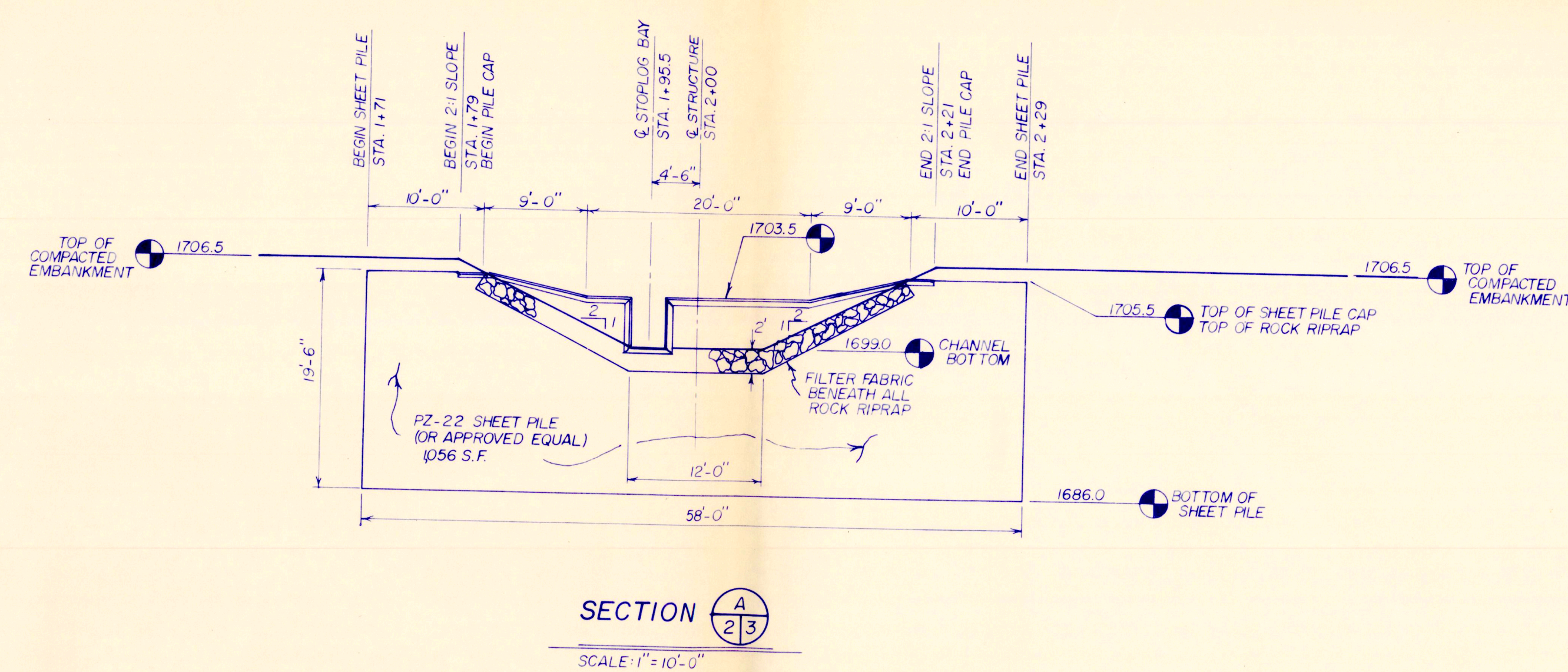
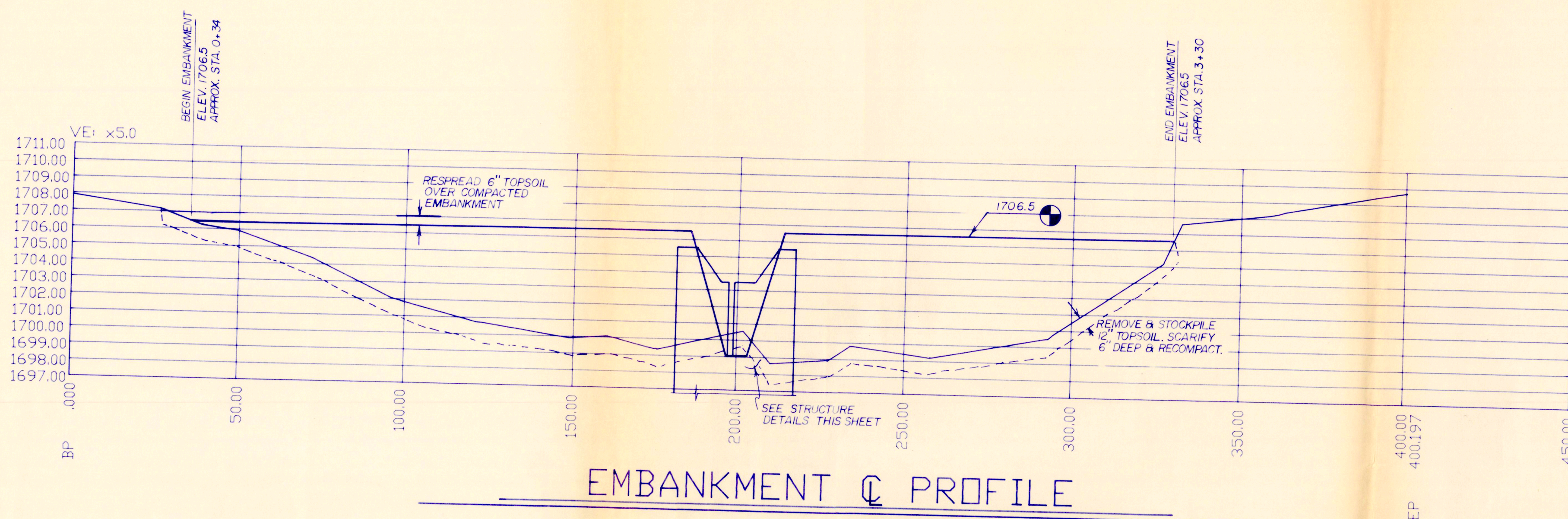
PROJECT TOPOGRAPHY

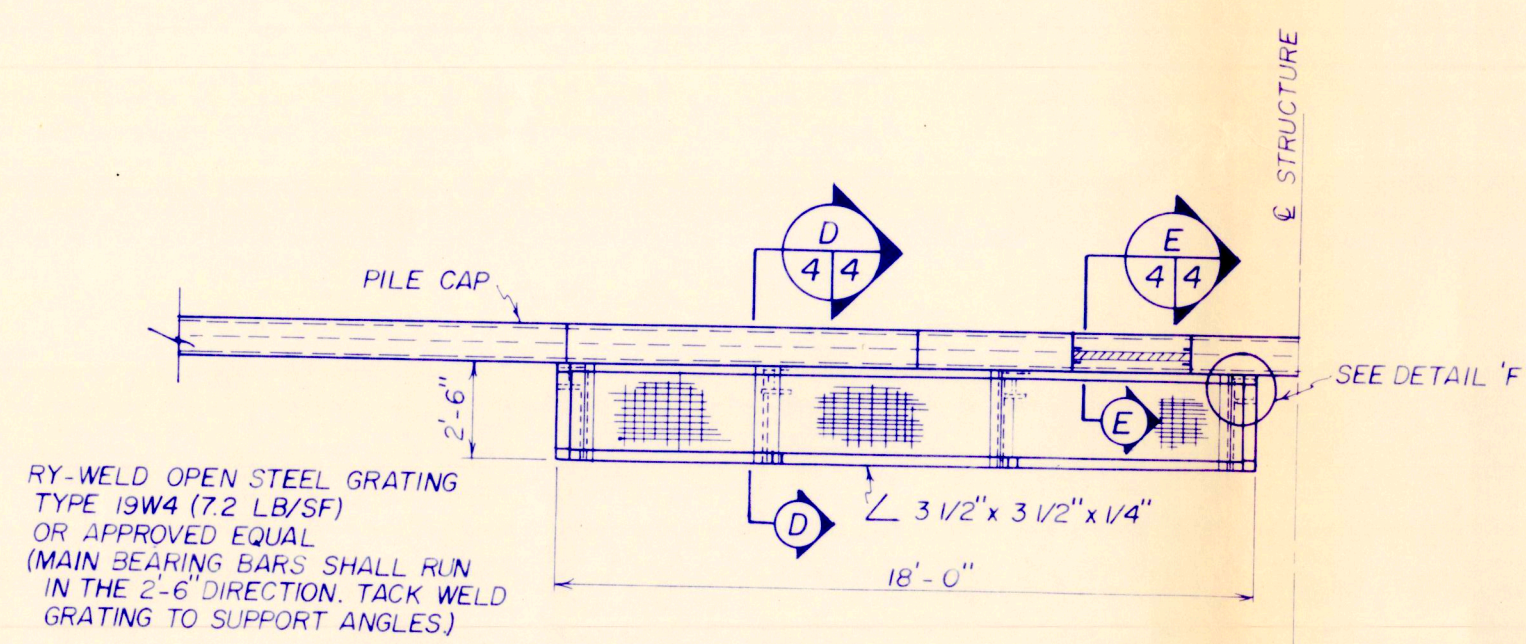
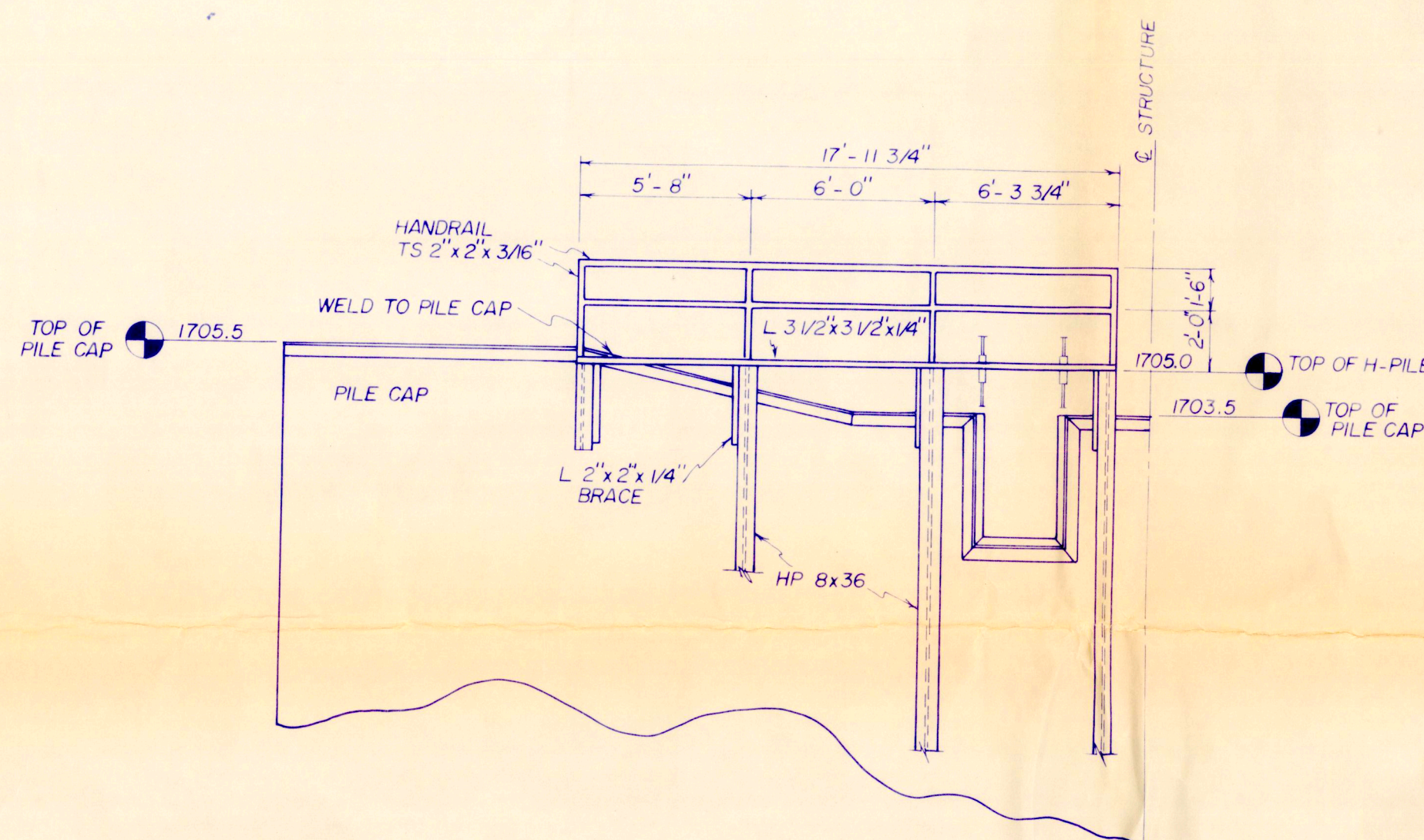
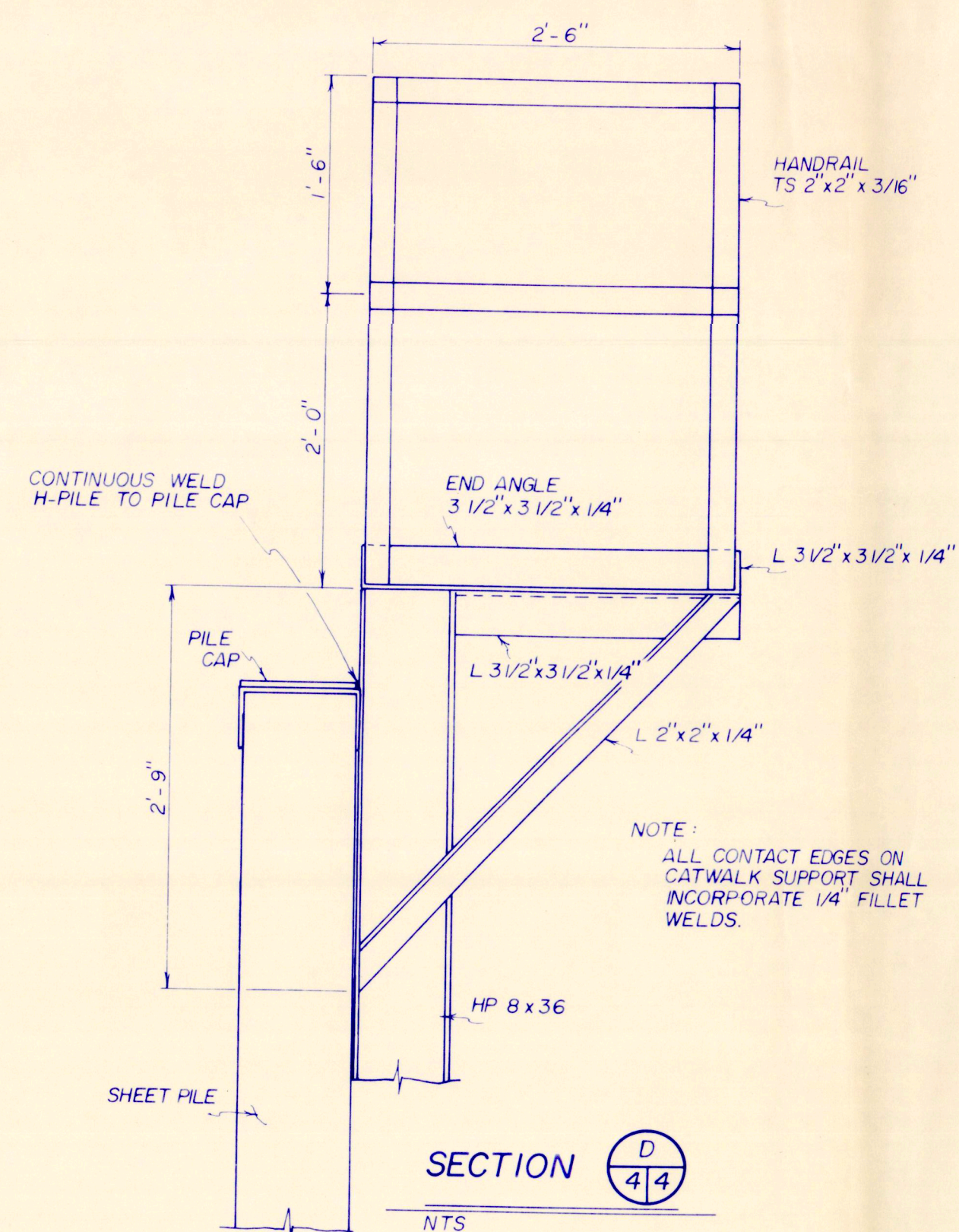
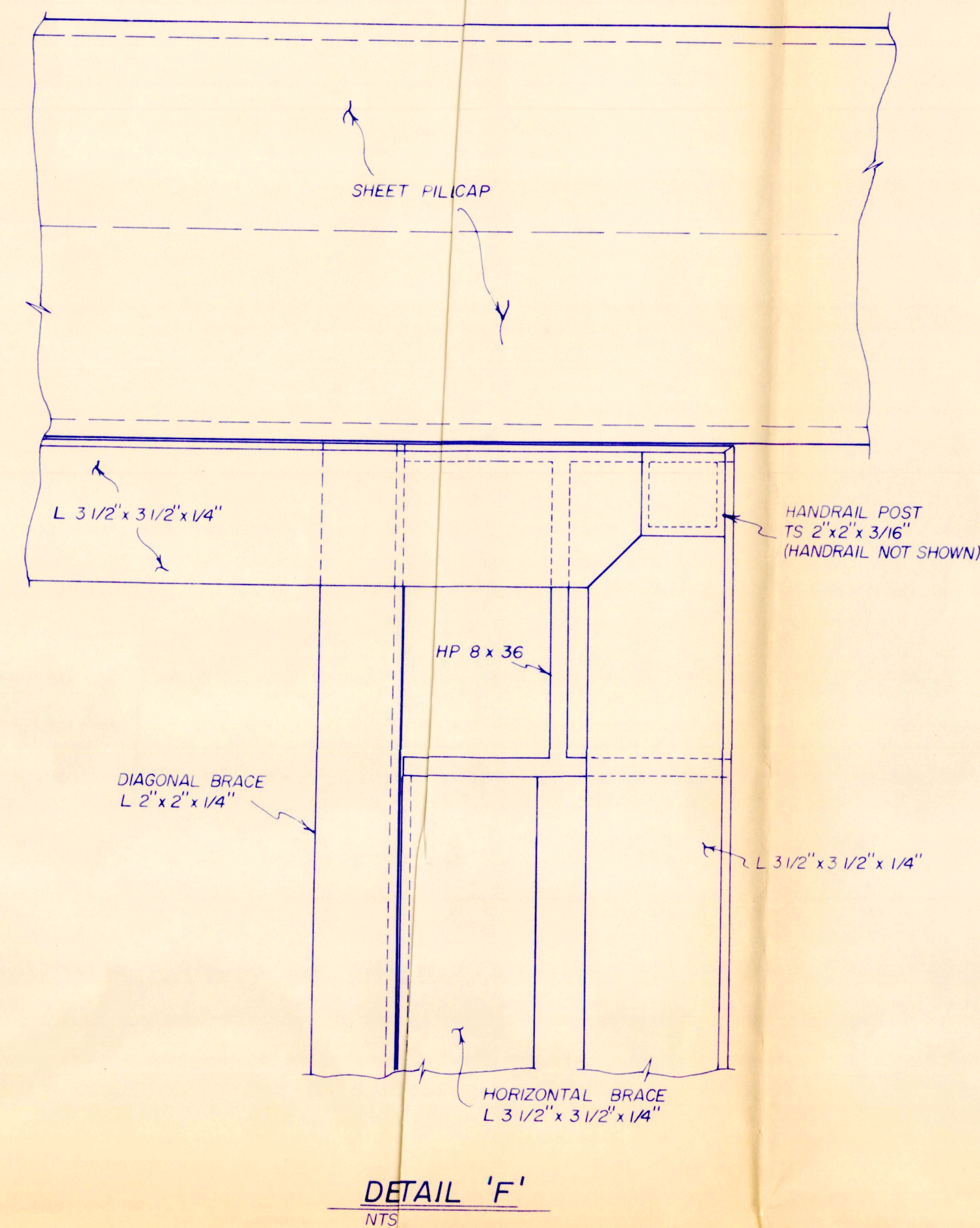
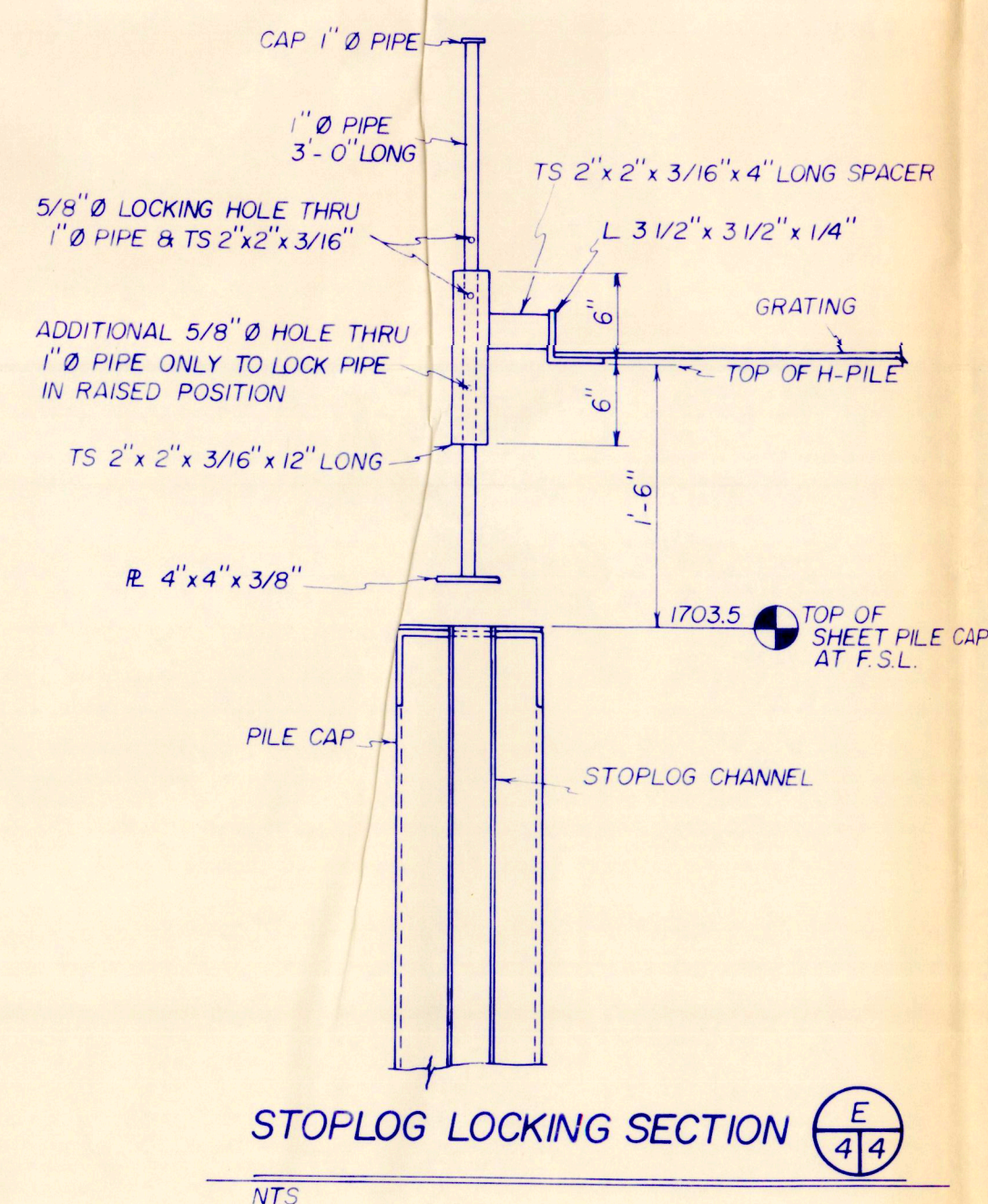
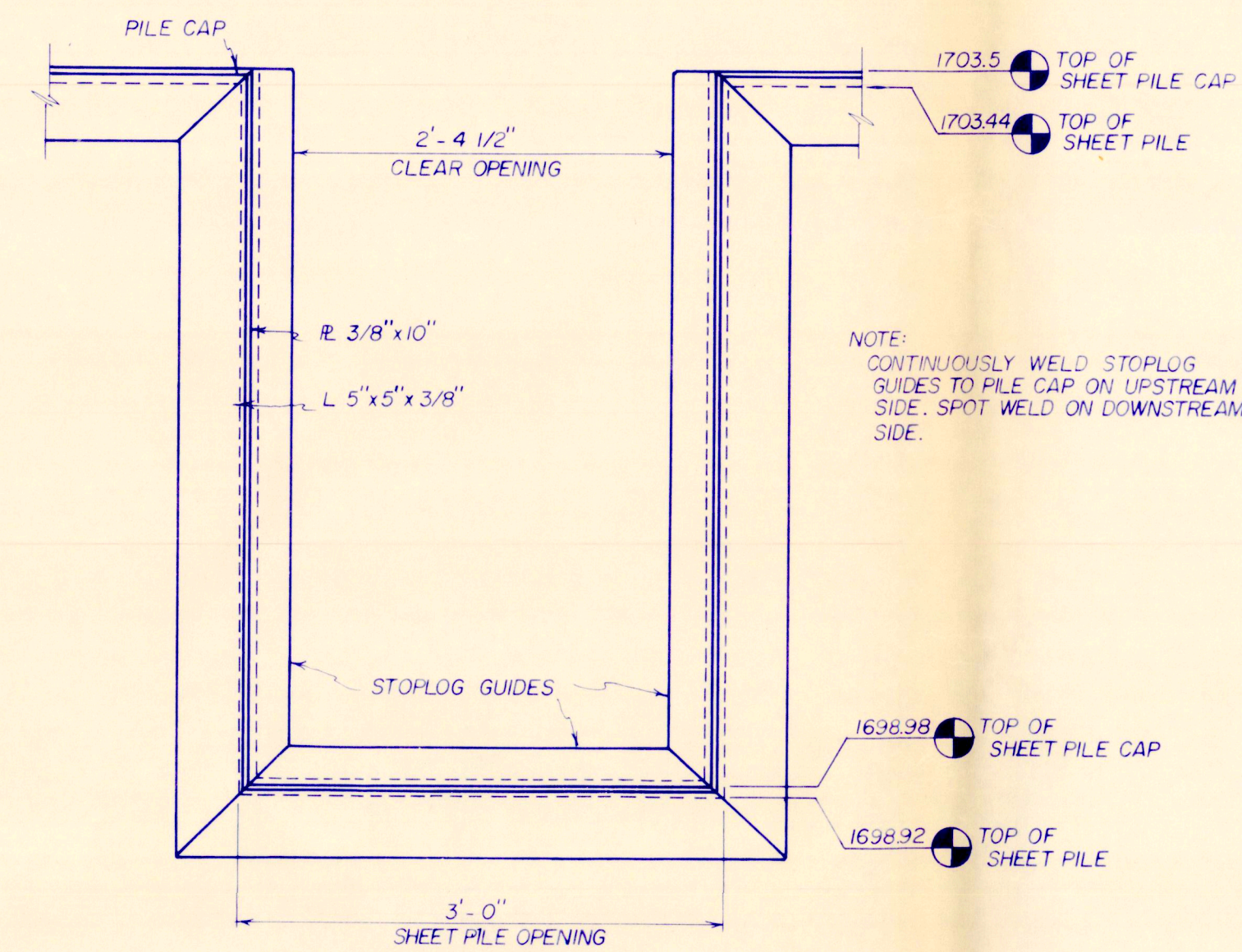
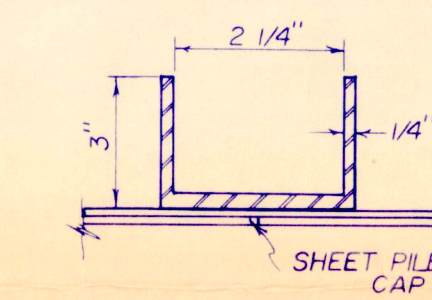
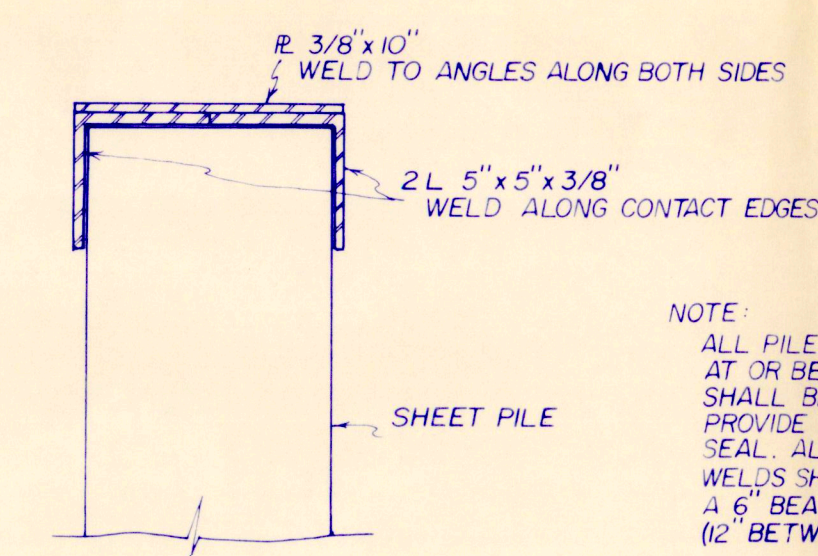
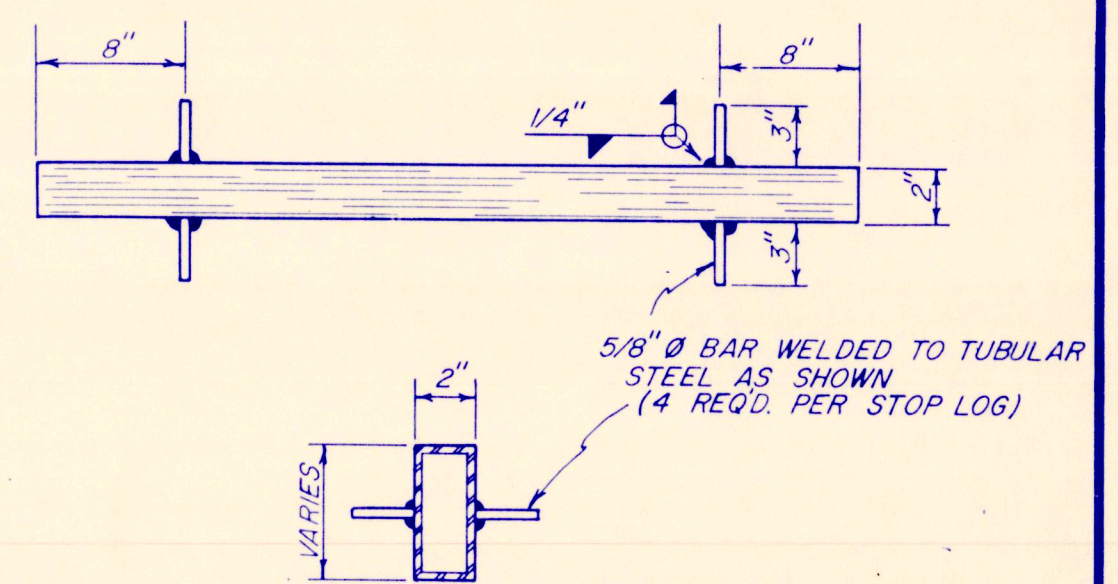
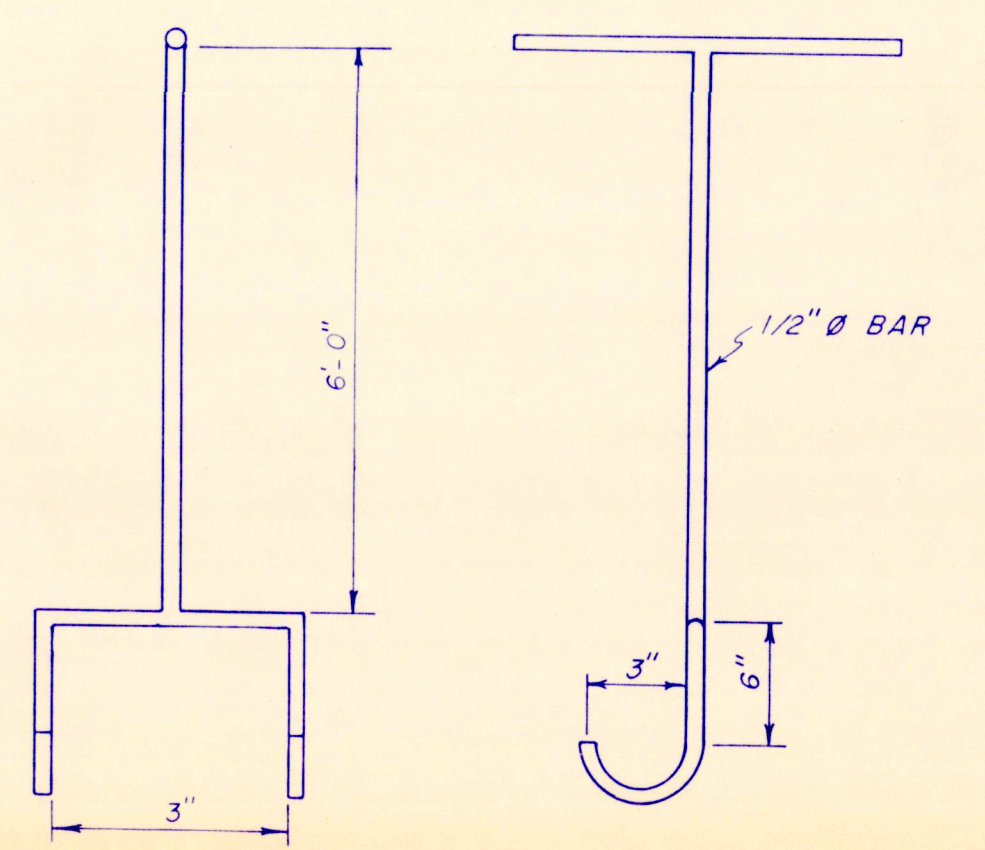


AREA-CAPACITY CURVE



DUCKS UNLIMITED INC. GRAT PLAINS REGIONAL OFFICE	PROJECT NO. DU-02-SD-078-001	DESIGNED BY D.J.L.
	LAKE THOMPSON-OLE LAKE	DRAWN BY K.D.B.
DATE	SHEET NO. 2 of 5	CHECKED BY
APPROVED BY	APPROVED BY	APPROVED BY



CATWALK FRAMING PLAN
SCALE: 1"=5'-0"CATWALK ELEVATION
SCALE: 1"=5'-0"SECTION
D 414
NTSDETAIL 'F'
NTSSTOPLOG LOCKING SECTION
E 414
NTSSTOPLOG BAY DETAIL
SCALE: 1"=5'-0"STOPLOG GUIDE DETAIL
NTSSHEET PILE CAP DETAIL
NTSSTEEL STOPLOG DETAIL
NTSLIFTING HOOK DETAIL
NTS
2 REQ'D

