

Considered: _____

WATER PERMIT NO. 5656-3

Phone: 996-4676

Name of Applicant: Dean Strand

Post Office Address: 716 E 6th Ave, Mitchell SD 57301

Amount of Water Claimed: 40.9 ac-ft Total Acres: NA

Source of Water Supply: surface runoff

Water to be used for: wildlife production County: Davison

About 3 miles SW of Mitchell

PROOF OF PUBLICATION: Received _____ Not Received _____

APPLICATION: Approved _____ Subject to _____

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

PRIORITY Date Received: 4-20-92 Fee: \$150 Remarks _____

Corrected Application Received 4-22-92 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: NE 1/4 NE 1/4 Sec 7-T102N-R60W

Land to be Irrigated: NA

Well Log: Driller: _____ Licensed YES _____ NO _____

Depth of Well: _____ REMARKS _____

Type of Map: plat PREPARED BY: Doug Lipetsky Reviewed and the Number

Assigned on 4-22-92 By Karen Schlaak

523 E. Capitol
Pierre, SD 57501
(605) 773-3352
 No. 5656-3 Hydrologic Unit 10160011
 Map No. _____ Basin James River
 Newspaper The Daily Republic, PO Box 1288
Mitchell 57301 996-5514

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 ☒ Wildlife Production

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 ☐ _____
☐ 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 Dean Strand Phone No. 1 605 996 4674
 Post Office Address 716 East 6th Ave. Mitchell State SD 57301
(Street, RR or Box) (City) Zip Code
2. Amount of water claimed (c.f.s.) 40.9 acre-feet3. Source of water supply Surface Runoff
 4. Location of point of diversion NE 1/4 NE 1/4 Sec. 7 T102N, R60W

County Davison5. Counties where water will be used Davison6. Annual period during which water is to be used year around Jan 1 - Dec 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)

Dam is being constructed to restore flooded conditions to a drained seasonal wetland so it can serve as a waterfowl brood rearing area. Dam is part of a Ducks Unlimited project that includes restoring seasonally flooded conditions to two other nearby sites. Location notices have been filed for these two sites

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

 STATE OF SOUTH DAKOTA)
 County of Davison)^{ss}

 I, Dean Strand the applicant, certify that I have read this application, have examined the attached map and that the matters stated are true and that I intend, and am able to complete the necessary construction.
Signed Dean V StrandSubscribed and sworn to before me this 16th day of April 19 92
W Mary Peterson
 Notary Public

My Commission expires Dec. 4, 1998

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 to 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) _____

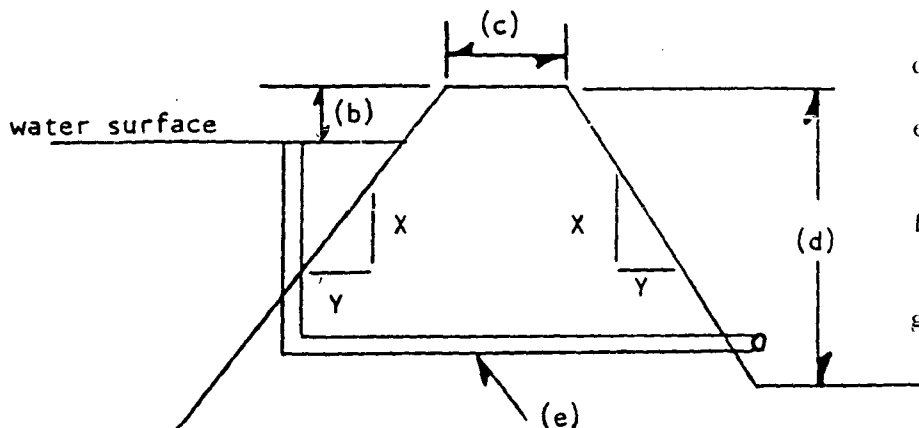
3. Water Storage Dams

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 - Doug Lipetsky PE-4499

6115 E. Main Ave., Bismarck, ND 58501



- b) Freeboard 3 feet
Embankment A = 12 feet
- c) Crest Width Embankment B = 8 feet
Embankment A = 848 feet
Crest Length Embankment B = 575 feet
- d) Height Embankment A = 7 feet
Embankment B = 3 feet
- e) Primary Outlet Capacity _____
If Pipe, diameter 30 inch
- f) Secondary Spillway Capacity _____
Spillway width 40 feet
- g) X & Y Slope 3:1
Upstream 3:1
Downstream 3:1

Surface Area of Impoundment 21.4 acres

Storage 40.9 @ full service level acre feet

Drainage area above dam 551 acres

Hean V. Stranch
Signature of Applicant

**SOUTH DAKOTA
WATER PERMIT No. 5656-3**

Date of first receipt of application April 20, 1992.

Date of return to applicant for corrections, amendments or changes April 20, 1992.

Date of receipt of corrected application April 22, 1992.

The Chief Engineer, on behalf of the Water Management Board, issues Water Permit No. 5656-3 to Dean Strand, 716 East 6th Ave, Mitchell SD 57301 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. 5656-3 authorizes impoundment of 40.9 acre-feet of water in a storage dam located in the NE 1/4 NE 1/4 Section 7 with water impounded in the NE 1/4 Section 7; all in T102N-R60W. Water is to be stored annually to an approximate elevation of 1318.5 feet mean sea level. The project includes construction of two seasonal marshes, 7.5 and 5.3 acre feet storage capacity located in the SW 1/4 SW 1/4 Section 5, NW 1/4 NW 1/4 Section 8, T102N-R60W for which location notices must be filed.
2. The water appropriated shall be used for the purpose of impounding water and may not exceed the amount of water needed for beneficial use for wildlife production.
3. The water is to be used during the following described annual period: January 1 - December 31.
4. The date of approval of Permit No. 5656-3 is August 6, 1992.
5. The date from which applicant may claim right is April 20, 1992.
6. One-fifth of the construction is to be completed on or before February 6, 1995.
7. All construction is to be completed on or before August 6, 1997.
8. Water is to be put to beneficial use on or before August 6, 2001.
9. Water rights obtained in compliance with the laws of the State of South Dakota may not be unlawfully impaired by this appropriation.

QUALIFICATIONS

1. Low flows as needed for downstream domestic use, including livestock water and prior water rights must be by-passed.
2. Approval of Water Permit No. 5656-3 authorizes storage of up to 40.9 acre-feet of water annually.

WATER MANAGEMENT BOARD

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

AUG 12 1992

date

P&S Review 6/16/92 GCT

Application No. 5656-3
Deer Strand Wetland - NE 1/4 NE 1/4 Section 7-102-60
Davison County, SD

Top Dam Elev = 1321.5'

Primary Spillway Elev = 1318.5'

Emergency Spillway Elev = 1320.0'

Cat. 3 Small Dam Size
Effective ht x Int. storage

Max Storage = 150 ac-ft

Intermediate storage = 83.2 ac-ft

Normal storage = 40.9 ac-ft

$$5' \times 83.2 = 416$$

$$416 < 3000$$

∴ use 25yr.
frequency event

From USGS "Technique for estimating Flood Peaks" (pp 3-4)

$$Q_{25} = 83.4 A^{0.60} S^{0.44} S_i^{-0.72}$$

Where.

A = drainage area upstream in mi² = 0.86

S = Main channel slope, ft/mi = 37

S_i = Soil infiltration index, inches = 3.33 (p. 33)

$$\begin{aligned} Q_{25} &= 83.4 (0.86)^{0.60} (37)^{0.44} (3.33)^{-0.72} \\ &= 83.4 (0.91) (4.9) (0.421) \\ &= \underline{157 \text{ cfs}} \end{aligned}$$

Capacity of Primary Spillway + Emergency Spillway
 @ crest of dam (1321.5') MSL

- ① Primary Spillway → 44' of 30" CMP
 use eq. Pg 3-24 SCS Engineering Field Manual

$$Q = a \sqrt{\frac{ZgH}{1+K_m+K_pL}} \quad \text{Where: } a = \text{X-sect. area pipe} = 4.91 \text{ ft}^2$$

$$g = \text{accel due to grav} = 32.2 \text{ ft/s}^2$$

$$H = \text{elev. diff from water surface to outlet elev @ center of pipe}$$

$$H = 1321.5' - 1315.75' = \underline{5.75'}$$

$$K_m = K_e + \frac{K_b}{6} = \text{coeff minor losses}$$

$$K_m = K_e = \text{loss @ pipe entrance} = 1.00 \text{ for inward proj. pipe (from Ex 3-8 p. 3-89 SCS)}$$

$$Q = 4.91 \text{ ft}^2 \sqrt{\frac{Z(32.2 \text{ ft/s}^2)(5.75')}{1+1+0.0246(44)}} \quad L = 44' \text{ (length of pipe)}$$

$$K_p = \text{head loss coeff} = 0.0246 \text{ (from Ex. 3-4 pg 3-75 SCS)}$$

$$Q = 4.91 \text{ ft}^2 \sqrt{\frac{370.3}{3.08}}$$

$$\underline{Q = 53.8 \text{ cfs from primary spillway (or 54 cfs)}}$$

Emergency Spillway

$$Q = CLH^{3/2} \text{ (Broad-Crested weir)}$$

Where

$$C = \text{weir coefficient} = 3.1 \text{ (SCS)} \text{ or } \boxed{2.6}$$

$$L = \text{width} = 40'$$

$$H = h_t = 1.5'$$

$$Q = (2.6)(40)(1.5)^{3/2}$$

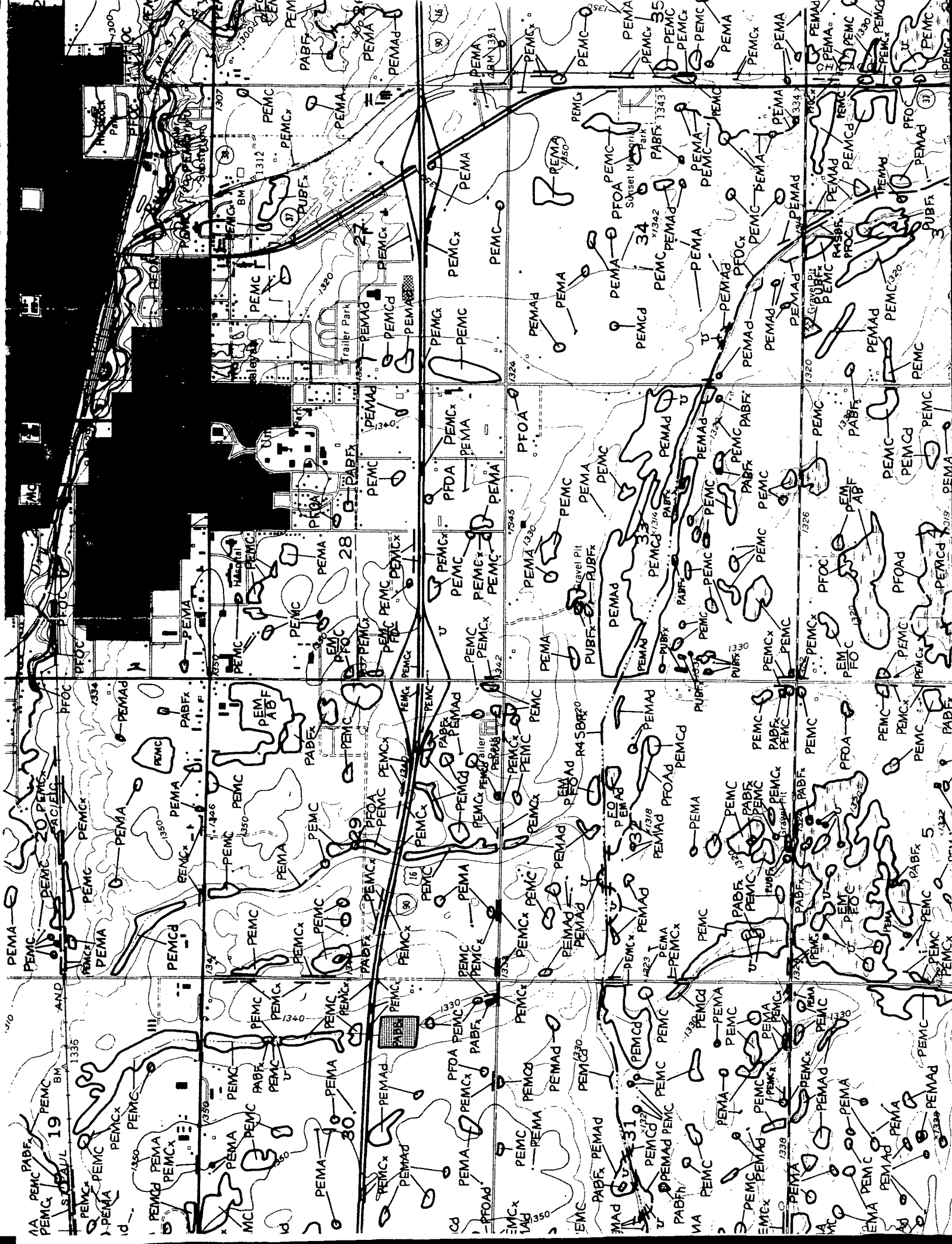
$$\underline{Q = 191 \text{ cfs Emergency Spillway}}$$

$$\therefore \text{Total capacity} = 191 \text{ cfs} + 54 \text{ cfs}$$

$$\checkmark \text{OK } = \underline{245 \text{ cfs} > 157 \text{ cfs @ Q}_{25}}$$

Section 74: 02:08:09 Review

- 1) Topo Map - ok
- 2) Dam axis profile - ok
- 3) Dam X-Section - ok
- 4) Area Capacity Curve - ok
- 5) Detailed drawings of outlet - ok
- 6) Spillway rating curve - ok
- 7) Plans on spillway structure - ok
- 8) Specifications - ok
- 9) EPP - ok



RECEIPT

Division of Water Rights

South Dakota Department of Water and Natural Resources

413180

Pierre, April 20, 19 92

RECEIVED OF Dean Strand, 716 E 6th Ave, Mitchell, SD 57301

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

Fee for Application for Permit No. <u>5656-3</u> to Appropriate Water, to construct works and to put water to beneficial use	150	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	150 00

By

Chief Engineer

John Hatch



DUCKS
UNLIMITED
INC.

DUCKS UNLIMITED, INC.
GREAT PLAINS REGIONAL OFFICE

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



April 20, 1992

Tim Schaal
SD Dept. of Water & Natural Resources
Division of Water Rights
Joe Foss Building
Pierre, SD 57501

RE: Dean Strand Wetlands Project
Davison County

Dear Tim:

Per your request, enclosed is a final, signed set of plans for the proposed wetland project on property owned by Dean Strand. Also, enclosed is a copy of my Design Report for the project including a Discharge Curve.

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

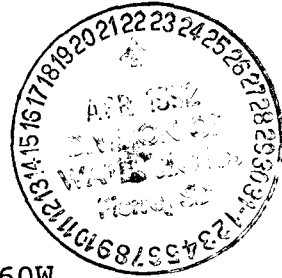
Sincerely,

Doug Lipetzky, P.E.
Regional Engineer

cc: Dan Limmer, SD Dept. of Game, Fish & Parks

DESIGN REPORT

January 9, 1992



PROJECT:

DEAN STRAND WETLANDS
SD-0128-001

LOCATION:

Sections 5,6,7 & 8, T102N, R60W
5 miles SW of Mitchell
Davison County, South Dakota

MARSH DATA:

West Marsh

Full Service Level (FSL) @ 1318.5
21.4 Surface Acres @ FSL
40.9 Acre-Feet Capacity @ FSL

East Seasonal Marsh

Full Service Level (FSL) @ 1316.0
14.3 Surface Acres @ FSL
7.5 Acre-Feet Capacity @ FSL

North Seasonal Marsh

Full Service Level (FSL) @ 1317.0
6.1 Surface Acres @ FSL
5.3 Acre-Feet Capacity @ FSL

PROJECT DESCRIPTION:

The project as proposed involves three separate areas, with all affected areas being under Dean Strand ownership. The area referred to as the "West Marsh" is designed to hold water throughout the summer months to serve as a brood-rearing area. The "East Marsh" and "North Marsh" are intended to be seasonal marshes holding shallow water early in the spring to attract pairs. Water from the seasonal marshes may be released by about June 15 of each year to keep the areas from becoming cattail choked. All three areas will have drawdown capability via water control structures.

CLASSIFICATION OF PROPOSED DAM:

Based on the criteria outlined in Chapter 74:02:08 "Safety of Dams," it appears that only the "West Marsh" embankment meets the definition of a "Dam" for the purposes of such Chapter. The embankments for both the "East Marsh" and the "North Marsh" are 3 feet or less in maximum height. Subsection 74:02:08:01 (7) states, "A barrier is not considered a dam for the purpose of this chapter if the height does not exceed 6 feet regardless of storage capacity. . . ". Therefore, only the "West Marsh" dam will be reviewed to determine compliance with the classification and design requirements of Chapter 74:02:08.

It is recommended that the proposed "West Marsh" dam be 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 intermediate storage capacity (83.2 acre-feet) times the effective height (5 feet max.) is 416 which is less than 3000. Therefore, the minimum spillway design flood for the dam is a 25-year frequency per 74:02:08:07.01. To meet in-house design criteria, the project will pass the 100-year frequency flood event without overtopping the embankment, thus, meeting all of the requirements of Chapter 74:02:08.

PRELIMINARY RISK ASSESSMENT

The proposed dam is located across a broad pasture swale that flows into an unnamed intermittent drainage that eventually discharges into Enemy Creek. A graveled township road with a 24" diameter reinforced concrete pipe (RCP) is located immediately downstream from the dam. The upstream invert of the pipe is at elevation 1315.63 and the low point of the road shoulder is at elevation 1318.27. There are good north-south and east-west roads every mile in this area so the traffic volume on this particular township road is minimal. It is not a main route since a bituminous road is located one mile west. Good visibility of the road area near the proposed dam site exists from both directions.

Once flows pass through the township road, they will enter the area referred to as the "East Marsh" which is a shallow seasonal marsh. Immediately downstream from the seasonal marsh is the intermittent drainage that runs 6800 feet downstream to another graveled township road crossing. About 4000 feet downstream from that crossing is where the drainage enters Enemy Creek. No residences or buildings exist along the drainage.

Based on the rural area involved and the relative small size and capacity (40.9 acre-feet) of the proposed dam, economic loss would be minimal in the unlikely event of a failure. Also, no loss of life would be expected. Therefore, it is my opinion that the risk to the general public would be minimal and the hazard potential is small. I would recommend the dam be considered a Category 3 dam.

DESIGN:

The watershed for the "West Marsh" consists of approximately 0.86 square miles with the runoff coming from the west and south. The majority of the watershed is corn ground with some pasture involved.

A fixed crest 48" diameter corrugated metal pipe (CMP) full round riser with a 30" diameter CMP outlet barrel is proposed as the primary spillway. The top of the riser will be at elevation 1318.5 (FSL) and it will have removable stoplogs to provide variable control. A 12" diameter CMP inlet pipe will be installed to assist in drawdown operations. A 40' wide emergency spillway with the finished crest at elevation 1320.0 will be constructed around the north end of the main embankment. A Discharge Curve for the primary and emergency spillways is attached to this report.

The Soil Conservation Service (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 primary spillway capacity was calculated by comparing discharges developed by the weir flow formula and formulas for calculating head loss through corrugated metal pipe. The emergency spillway capacity was calculated using Technical Release No. 39 Hydraulics of Broad-Crested Spillways developed by the SCS.

The following is a relationship between peak inflows, corresponding outflows, and reservoir elevations for the "West Marsh:"

<u>EVENT</u>	<u>PEAK INFLOWS</u>	<u>RUNOFF VOLUME</u>	<u>MAXIMUM WATER SURFACE ELEVATION</u>	<u>PEAK DISCHARGE</u>	<u>FINAL* FREEBOARD</u>
10 YR	117 CFS	77 AC-FT	1320.04	29 CFS	1.96 FT
25 YR	157 CFS	99 AC-FT	1320.35	39 CFS	1.65 FT
50 YR	198 CFS	123 AC-FT	1320.61	53 CFS	1.39 FT
100 YR	233 CFS	143 AC-FT	1320.79	71 CFS	1.21 FT

*Freeboard after 6" topsoil placed.

OTHER MARSH AREAS INVOLVED:

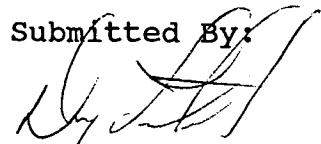
As explained earlier, two other areas besides the "West Marsh" are being developed as part of this project. These two marshes will be developed as shallow water seasonal marshes. Both the "East Marsh" and the "North Marsh" will have small embankments 3 feet high or less and will be equipped with low flow\drawdown pipes and removable stoplogs. The stoplogs can be removed to vacate the marshes of water at the appropriate time. The "North Marsh" will have a 20' wide emergency spillway to pass flows from the larger events. The "East Marsh" will be constructed with an overflow section to accommodate high flows.

PLANS AND SPECIFICATIONS:

A preliminary set of plans is submitted with the Design Report. A set of standard construction specifications has previously been submitted to the Division of Water Rights for the purpose of permit review.

Dated: January 9, 1992

Submitted By:



Doug Lipetzky, P.E
PE-4499

DISCHARGE CURVE

DEAN STRAND WETLANDS-WEST BASIN

SD-128-001

DISCHARGE, Q (CFS)

90

80

70

60

50

40

30

20

10

0

1321

1320

1319

1318

1317

1316

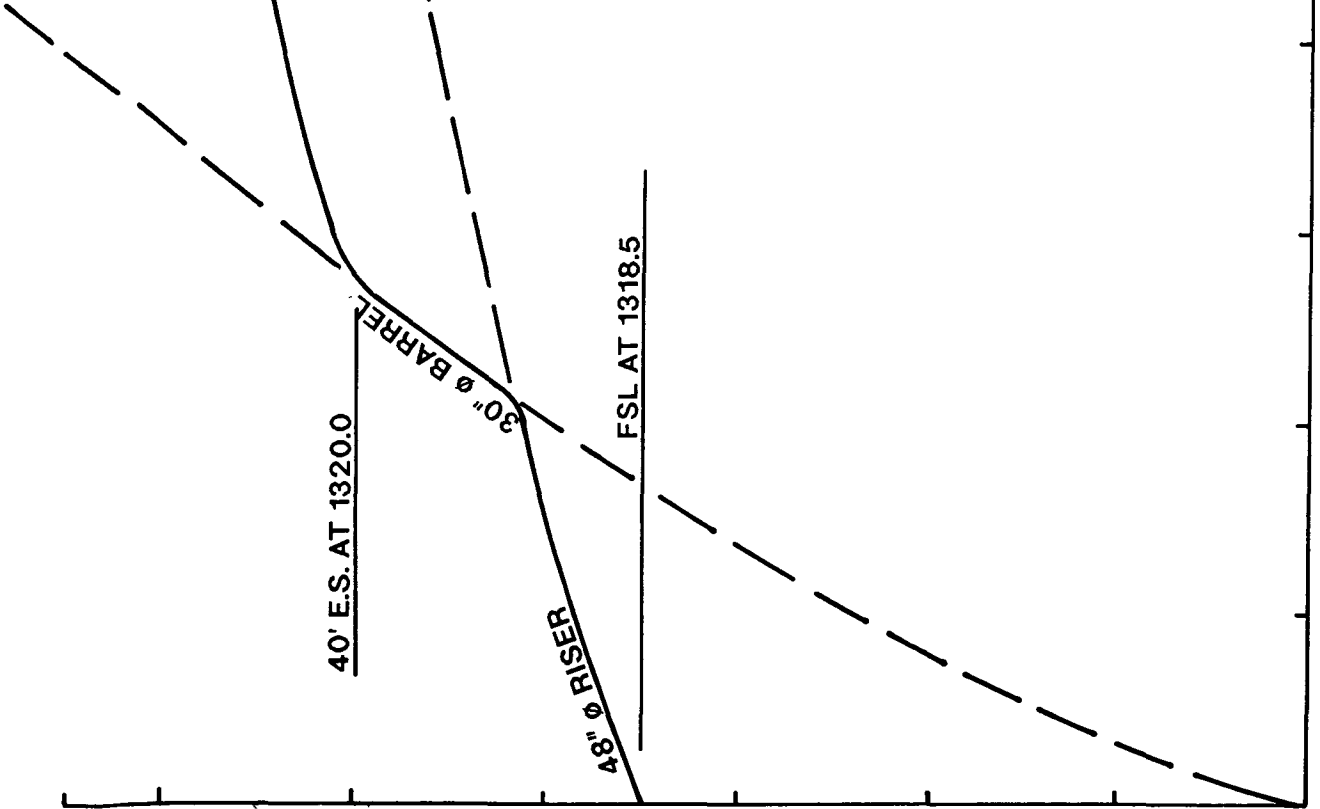
1315

40' E.S. AT 1320.0

30" Ø BARREL

48" Ø RISER

FSL AT 1318.5



Conversation or File Documentation

NAME OF PERSON OR FILE: Dean Strand WetlandADDRESS: 716 E. 6th Ave Mitchell, SD COUNTY DavisonDATE: April 22, 1992 TELEPHONE _____RE: Location of Diversion Point

COMMENTS:

I talked to Doug Lipetsky from Ducks Unlimited
(701 258-5599) today about the Dean Strand Wetland.
The location of point of diversion on Mr. Strand's
Application should be the NE 1/4 NE 1/4, instead of the
NW 1/4 NW 1/4 as shown on the application. Mr. Lipetsky
also said he would send us a Final set of P&S.

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

NAME: Timi Schaal

Report on Application No. 5656-3
Dean Strand
June 15, 1992

This application proposes to impound 40.9 acre-feet of water in a storage dam located in the NE1/4 NE1/4 Section 7 with water impounded in the NE1/4 Section 7; all in T102N-R60W. Water is to be stored annually to an approximate elevation of 1318.5 feet mean sea level and is to be used to provide habitat for wildlife production.

Discussion

The embankment of the dam will be 7.0 feet high with a storage capacity of 40.9 acre-feet at the elevation of the primary spillway. The intermediate storage capacity at the secondary spillway is 83.2 acre-feet. This dam is classified as a Category 3, Small dam size. The spillway is required to have a minimum capacity of passing a 25 year frequency event.

The plans and specifications have been reviewed for this project and can be approved. The drainage area of the proposed dam is approximately 0.86 square miles (551 acres) and a twenty five year frequency will produce a peak runoff of 157 cfs. The dam is designed with a 40 foot wide emergency spillway. The total spillway capacity is 245 cfs for both the primary and emergency spillways.

The dam will be located on an unnamed drainage approximately 3 miles southwest of Mitchell. There are no water rights on the drainage that would be affected by the dam.

Conclusions

- 1) Water is available from the unnamed drainage.
- 2) Existing Water Rights will not be impaired.


Gregory C. Johnston
Natural Resources Engineer I

Approved by:


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

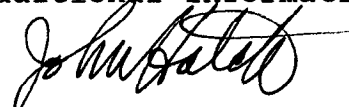
RECOMMENDATION OF CHIEF ENGINEER FOR WATER PERMIT
APPLICATION NO. 5656-3, Dean Strand

Pursuant to SDCL 46-2A-2, the following is the recommendation of the Chief Engineer, Water Rights Division, Department of Environment and Natural Resources concerning Water Permit Application No. 5656-3, Dean Strand, 716 East 6th Avenue, Mitchell, SD 57301.

The Chief Engineer is recommending APPROVAL of Application No. 5656-3 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) it is in the public interest with the following qualifications:

1. Low flows as needed for downstream domestic use, including livestock water and prior water rights must be by-passed.
2. Approval of Water Permit No. 5656-3 authorizes storage of up to 40.9 acre-feet of water annually.

See report on application for additional information.



JOHN HATCH, Chief Engineer
June 16, 1992



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

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

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

July 2, 1992

Dean Strand
716 E 6th Avenue
Mitchell, SD 57301

Dear Mr. Strand:

Water Permit Application No. 5656-3 for 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 Daily Republic printed at Mitchell, SD (Ph # 996-5514). For your information, a copy of the notice, the recommendation of the Chief Engineer and a report on the application are enclosed. Please review the notice prior to publication and notify this office, if you have any corrections or questions.

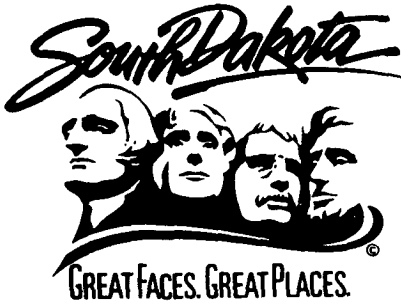
Be sure to contact the above newspaper to authorize publication of your Notice of Hearing and to arrange for payment. Early contact with the paper can eliminate delays. The publisher has been instructed to publish your notice once each week for two consecutive weeks with the last publication to occur twenty days before the board meeting. The newspaper has been instructed to send us the Proof of Publication. We must receive Proof of Publication before action can be taken on the application.

Sincerely,

Eric Gronlund
Natural Resources Engineer
605 773-3352

enclosures

NOTE: If you plan to contest any part of the Chief Engineer's recommendation, you must file a petition pursuant to the procedures outlined in the attached notice of hearing. The Water Management Board will then consider your concerns during a hearing on the application.



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

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

July 2, 1992

The Daily Republic
PO Box 1288
Mitchell, SD 57301

ATTENTION: Legal Department

Enclosed is a Notice of Hearing on Application No. 5656-3 to be published twice. Please publish the first notice on July 10, 1992, 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 Dean Strand, 716 E 6th Ave, Mitchell, SD 57301 (Ph # 996-4676).

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. No action may be taken on the permit application 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 July 10, 1992, with the second publication 7 days later. The applicant is responsible for payment.

NOTICE OF HEARING on Application No. 5656-3 to Appropriate Water

Notice is given that Dean Strand, 716 E 6th Ave, Mitchell, SD 57301 has filed an application for a water permit to impound 40.9 acre-feet of water in a storage dam located in the NE 1/4 NE 1/4 Section 7 with water impounded in the NE 1/4 Section 7; all in T102N-R60W. Water is to be stored annually to an approximate elevation of 1318.5 feet mean sea level and is to be used to provide habitat for wildlife production. This project also includes construction of two seasonal marshes, 7.5 and 5.3 acre-feet storage capacity, located in the SW 1/4 SW 1/4 Section 5, NW 1/4 NW 1/4 Section 8, T102N-R60W, for which location notices must be filed.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 5656-3 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. Unless a petition is filed opposing the application or the applicant files a petition contesting the chief engineer's recommendation, the Water Management Board will NOT CONDUCT a HEARING to consider this application and the chief engineer will issue the permit as recommended. Petitions filed in support of the application will NOT require the Board to hear the application.

Any person interested in opposing or supporting this application must file a written petition with BOTH the applicant and Chief Engineer. The applicant must also file a petition if opposed to the Chief Engineer's recommendation. The Chief Engineer's address is "Water Rights Division, Foss Building, 523 E Capitol, Pierre SD 57501 (605 773-3352)" and the applicant's mailing address is given above. A petition filed by either an interested person or the applicant must be filed by July 27, 1992. 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 the petitioner's legal counsel, if legal counsel is obtained.

For purposes of publishing 1) the notice of hearing on Application No. 5656-3 and 2) the chief engineer's recommendation, a meeting at the Division of Water Rights office to hear this application is scheduled for August 6, 1992, at 9:00 am in Room 413, Joe Foss Building, 523 E Capitol, Pierre SD. If this application is opposed or the recommendation is contested, the August 6, 1992, hearing date will be rescheduled for a regularly scheduled Board meeting. Notice of the time and place of the rescheduled hearing before the Board will be given by First Class Mail to the applicant and persons filing petitions. Anyone not filing a petition, but interested in attending the hearing, may contact the Division of Water Rights to confirm a hearing date and location. The August 6, 1992, hearing date will be automatically delayed for at least 20 days upon written request to the Chief Engineer from the applicant or any interested person opposing the application. The request for an automatic delay must be filed by July 27, 1992.

If a hearing is held, 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 hearing will be an adversary proceeding. Any person filing a petition and/or the applicant have the right to be represented by a lawyer and may present evidence or cross-examine witnesses according to SDCL 1-26. 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. Contact the Water Rights Division to request copies of information pertaining to this application or to assure access to the hearing by the handicapped.

This application is made pursuant to SDCL 46-1-1 thru 46-1-9, 46-1-12 thru 46-1-16; 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, 46-2A-20, 46-2A-21; 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)
) ss.
 County Davison)

I, Penny Hohbach

certify that the attached printed Notice

from the Daily Republic

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

of Mitchell

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

July 10, 1992

July 17, 1992

Penny Hohbach
 (Signature)

Legal Advertising
 (Title)

7-17-92

(Date Signed)

Cost of Printing: 142.40



NOTICE OF HEARING on Application No. 5656-3 to Appropriate Water

Notice is given that Dean Strand, 716 E 6th Ave, Mitchell, SD 57301 has filed an application for a water permit to impound 40.9 acre-feet of water in a storage dam located in the NE 1/4 NE 1/4 Section 7 with water impounded in the NE 1/4 Section 7; all in T102N-R60W. Water is to be stored annually to an approximate elevation of 1318.5 feet mean sea level and is to be used to provide habitat for wildlife production. This project also includes construction of two seasonal marshes, 7.5 and 5.3 acre-foot storage capacity, located in the SW 1/4 SW 1/4 Section 5, NW 1/4 NW 1/4 Section 8, T102N-R60W, for which location notices must be filed.

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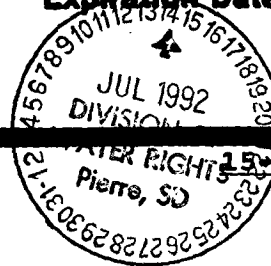


**US Army Corps
of Engineers**
Omaha District

Public Notice

Reply to:
Pierre Regulatory Branch
Federal Building, Room 317
Pierre, South Dakota 57501

Application No: 199230248
Date: July 9, 1992
Expiration Date: July 24, 1992



CEMRO-OP-R
Dean Strand
Wetland Restoration
Wetlands

15 DAY NOTICE

NOTICE OF PERMIT PENDING

The application of Mr. Dean V. Strand, 716 East Sixth Avenue, Mitchell, South Dakota 57301, for approval of plans and issuance of a permit under authority of the Secretary of the Army is being considered by the District Engineer, US Army Engineer District, Omaha, Nebraska.

The applicant requests authorization to construct water control structures and place fill material in three (3) separated seasonal or drained seasonal wetland sites in conjunction with a wetland restoration project. The project is located in Sections 5, 7 and 8, Township 102 North, Range 60 West, Davison County, South Dakota.

The proposed project will consist of the excavation of earth material, forming shallow linear borrow pits in each wetland site, and placement of the excavated material adjacent to the borrow areas in a series of five (5) linear shaped embankments (embankments A through E). Embankment sizes (height, length and width) will vary with a maximum height of six (6) feet at embankment A to others ranging at three (3) feet or less. The embankments will be formed along the outer drainages of the wetlands for water retainage. Topsoil will be saved and respread along the borrow areas and embankments. A total of fourteen thousand, three hundred ninety-eight (14,398) cubic yards of earth fill is estimated for the construction of the embankments with approximately 2.52 actual acres of wetland expected to be covered by the fill material. Engineered water control structures will be installed in embankments of each of the three (3) wetlands to maintain desired water levels. The control structures will consist of interconnected, corrugated metal pipe installed with steel stoplog gates controlling water releases. The largest of the structures will require the placement of small quantities of concrete and riprap. Riprap fill is estimated at ten (10) cubic yards. Earthen emergency spillway drainages will be constructed in two (2) wetlands to release high flows.

The purpose of the project is to restore previously drained wetlands at maintained water levels for the benefit of waterfowl species.

Certification that the proposed project will not violate applicable water quality standards has been requested from the Regional Administrator, US Environmental Protection Agency, Region VIII, One Denver Place, Suite 1300, 999 - 18th Street, Denver, Colorado.

In compliance with Section 106 of the National Historic Preservation Act of 1966, as amended, the National Register of Historic Places and current supplements have been consulted. There are no sites included or which have been determined eligible for inclusion therein which will be affected by the project.

In compliance with the Endangered Species Act, our review indicates that the proposed activity will not affect species designated as threatened or endangered pursuant to the Endangered Species Act or their critical habitat.

The decision whether to issue a permit will be based on an evaluation of the probable impacts including cumulative impacts of the proposed activity on the public interest. That decision will reflect the national concern for both protection and utilization of important resources. The benefit which reasonably may be expected to accrue from the proposals must be balanced against its reasonably foreseeable detriments. All factors which may be relevant to the activity will be considered including the cumulative effects thereof; among those are conservation, economics, aesthetics, general environmental concerns, wetlands, cultural values, fish and wildlife values, flood hazards, flood plain values, land use, navigation, shoreline erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food production, and, in general the needs and welfare of the people.

The Corps of Engineers is soliciting comments from the public; Federal, state, and local agencies and officials; Indian Tribes; and other interested parties in order to consider and evaluate the impacts of this proposed activity. Any comments received will be considered by the Corps of Engineers to determine whether to issue, modify, condition or deny a permit for this proposal. To make this decision, comments are used to assess impacts on endangered species, historic properties, water quality, general environmental effects, and the other public interest factors listed above. Comments are used in the preparation of an Environmental Assessment and/or an Environmental Impact Statement pursuant to the National Environmental Policy Act. Comments are also used to determine the need for a public hearing and to determine the overall public interest of the proposed activity.

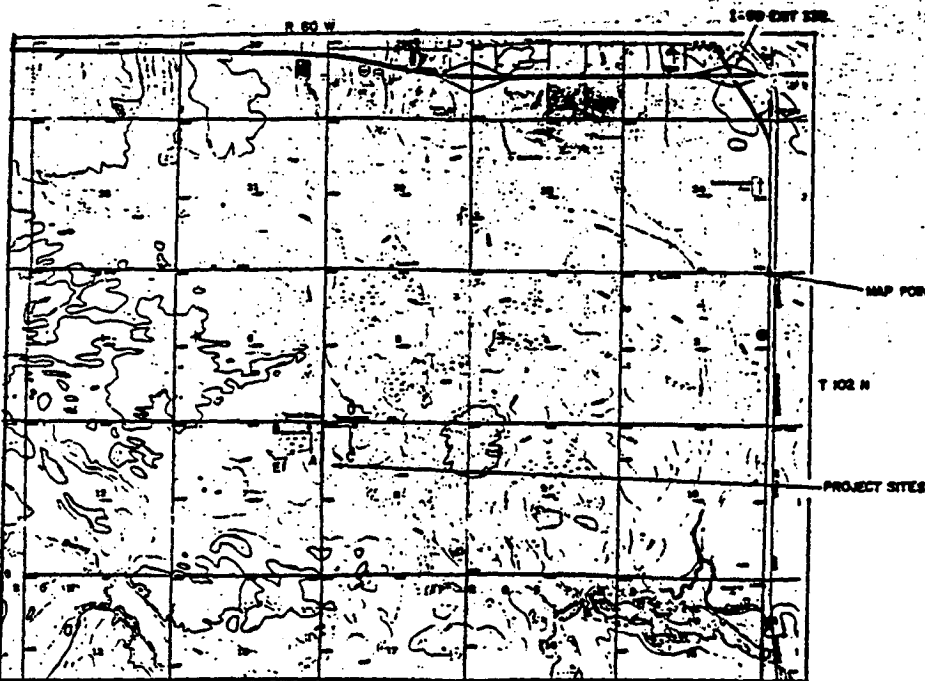
Any person may request, in writing, within the comment period specified in this notice, that a public hearing be held to consider this application. Requests for public hearings shall state, with particularity, the reason for holding a public hearing. The request must be submitted to the US Army Corps of Engineers, Pierre Regulatory Office, Federal Building, Room 317, Pierre, South Dakota 57501.

Any interested party (particularly officials of any town, city, county, state, Federal agency, or local association whose interests may be affected by the proposed work) is invited to submit to this office, written facts, arguments, or objections on or before July 24, 1992. Any agency or individual having an objection to the proposed work should specifically identify it as an objection with clear and specific reasons. Comments, both favorable and unfavorable, will be accepted, made a part of the record and will receive full consideration in subsequent actions on this permit application. All replies to the public notice should be addressed to the address listed in the previous paragraph. Mr. Thomas A. Lowin, telephone number (605) 224-8531, may be contacted for additional information.

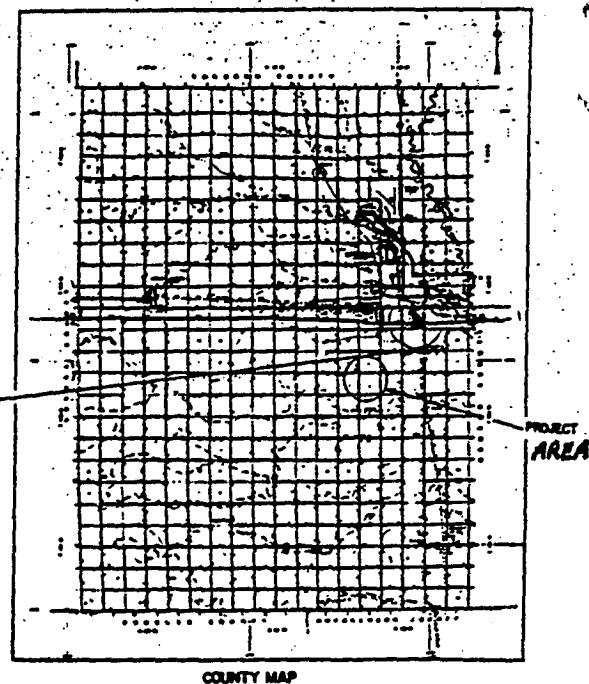
Comments received after the close of the business day on the expiration date of this public notice will not be considered.

This project, if authorize, will be under the provisions of Section 404 of the Clean Water Act.

Drawings showing the location and extent of the work are attached to this notice.

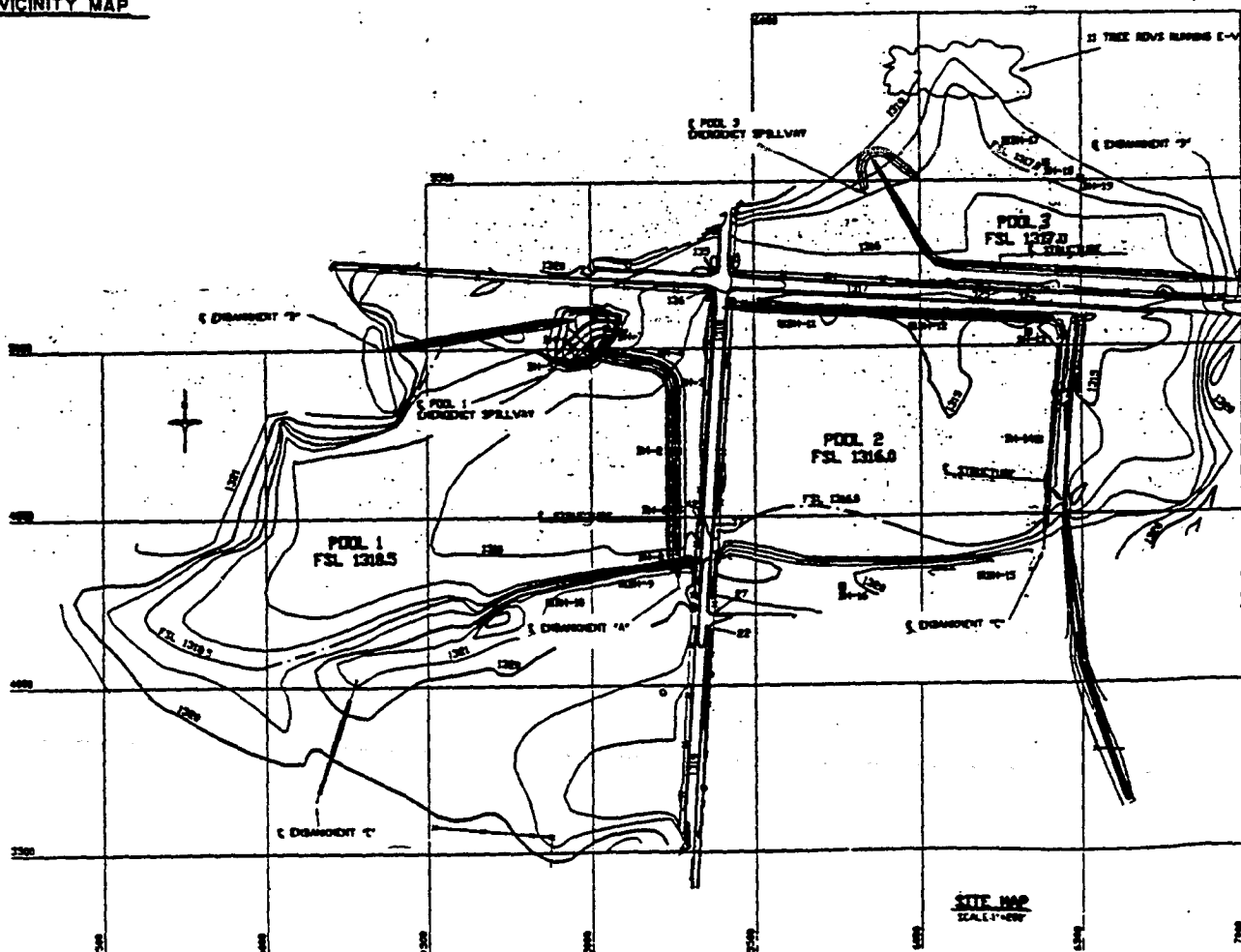


VICINITY MAP



COUNTY MAP

POOL 1 MARSH DATA	
FULL SUPPLY LEVEL (F.S.L.)	1319.3
FLOODED AREA AT F.S.L.	21.4 ACRES
CAPACITY AT F.S.L.	48.9 AC-FT
POOL 2 MARSH DATA	
FULL SUPPLY LEVEL (F.S.L.)	1316.0
FLOODED AREA AT F.S.L.	14.3 ACRES
CAPACITY AT F.S.L.	7.5 AC-FT
POOL 3 MARSH DATA	
FULL SUPPLY LEVEL (F.S.L.)	1317.0
FLOODED AREA AT F.S.L.	5.1 ACRES
CAPACITY AT F.S.L.	5.3 AC-FT



SITE MAP
SCALE 1"=40'

PURPOSE: Fill/Embankment

DATUM msl

ADJACENT PROPERTY OWNERS:

1

2

IN Wetlands

AT Sec. 5/7/8, T102N, R60W

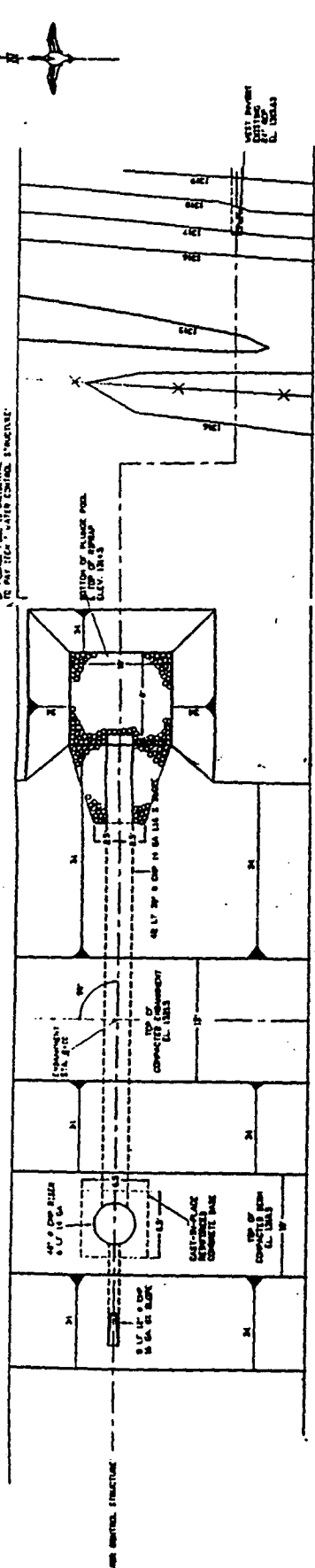
COUNTY OF Davison STATE SD

APPLICATION BY Dean V. Strand

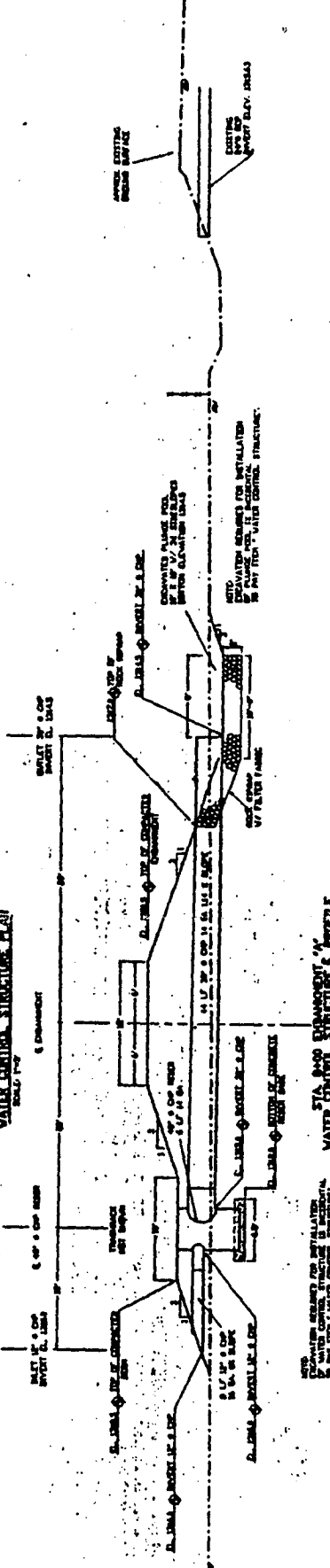
SHEET 1 OF 7 DATE July 1992



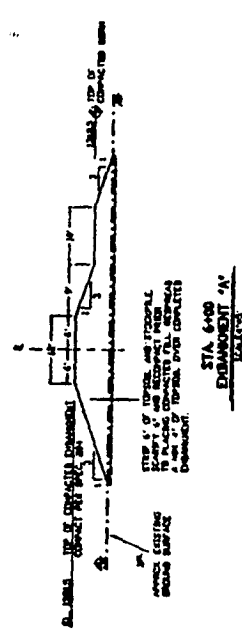
NOTE: EXISTING SURFACE FOR INSTALLATION OF WATER CONTROL STRUCTURE IS SHOWN BY DOTTED LINE.



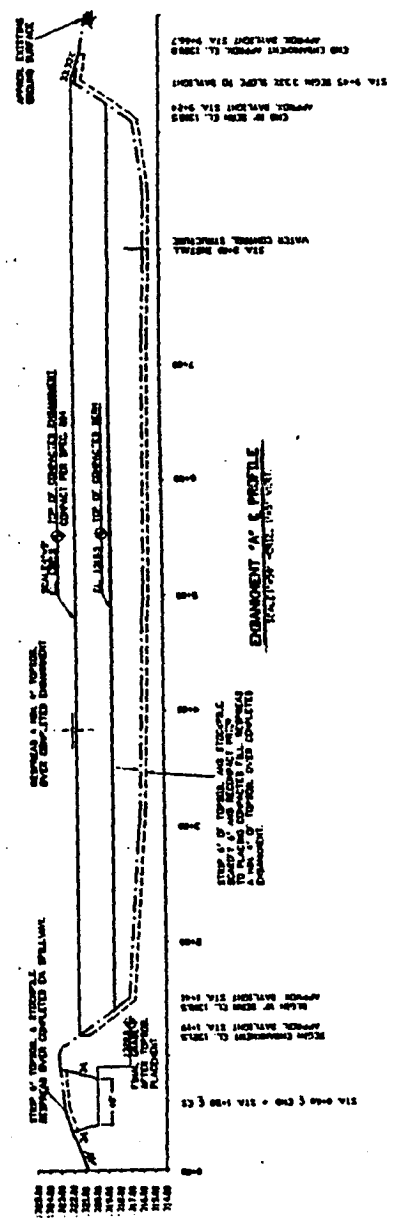
STA 6+00 EMBANKMENT 'A' WATER CONTROL STRUCTURE PLAN



STA 6+00 EMBANKMENT 'A' WATER CONTROL STRUCTURE PROFILE



STA 6+00 EMBANKMENT 'A' PROFILE



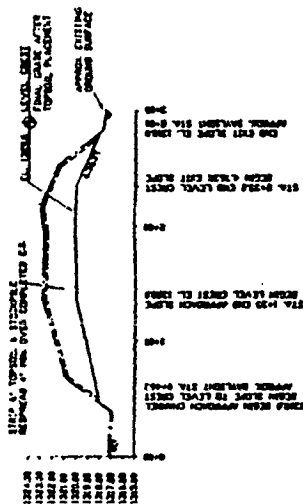
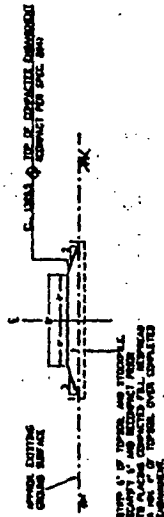
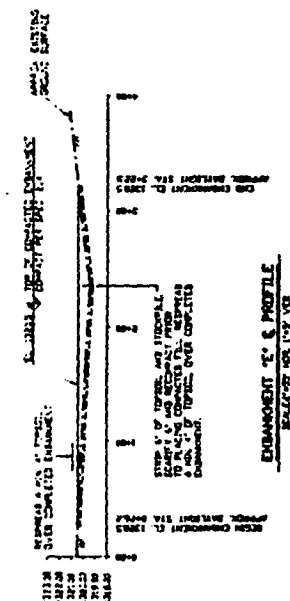
STA 6+00 EMBANKMENT 'A' PROFILE

PURPOSE: Fill/Embankment
DATUM: msl
ADJACENT PROPERTY OWNERS:
1
2

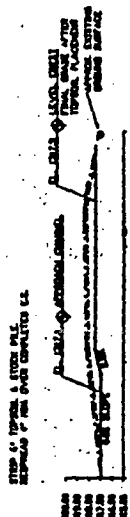
IN Wetlands
AT Sec. 5/7/8, T102N, R60W
COUNTY OF Davison STATE SD
APPLICATION BY Dean V. Strand
SHEET 3 OF 7 DATE July 1992

PURPOSE: Fill/Embankment
 DATUM msl
 ADJACENT PROPERTY OWNERS:
 1
 2

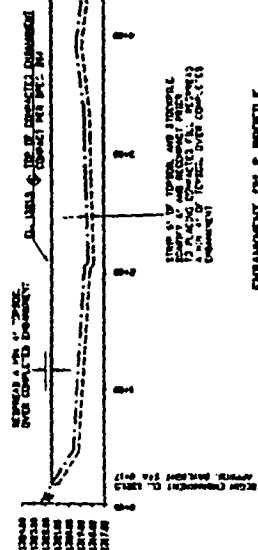
IN Wetlands
 AT Sec. 5/7/8, T102N, R60W
 COUNTY OF Davison STATE SD
 APPLICATION BY Dean V. Strand
 SHEET 4 OF 7 DATE July 1992



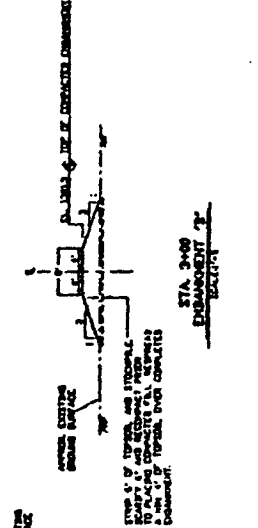
POOL 1 EMERGENCY SPILLWAY & PROFILE
 SECTION 5/7/8



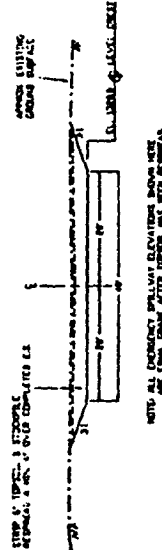
POOL 3 EMERGENCY SPILLWAY & PROFILE
 SECTION 5/7/8



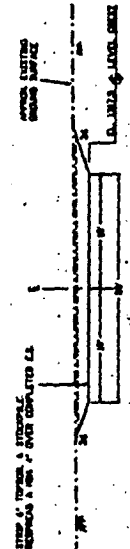
EMBANKMENT 'D' & PROFILE
 SECTION 5/7/8



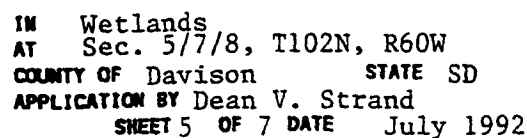
EMBANKMENT 'E' & PROFILE
 SECTION 5/7/8



POOL 1 EMERGENCY SPILLWAY
 SECTION 5/7/8



POOL 3 EMERGENCY SPILLWAY
 SECTION 5/7/8





**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

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

AUG 12 1992

Dean Strand
716 East 6th Avenue
Mitchell, SD 57301

Dear Mr. Strand:

Enclosed is Water Permit No. 5656-3 authorizing construction of your water diversion system and beneficial use of the water, 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,

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.

cc: Tim Olson, SD Dept of Game, Fish & Parks, 523 E Capitol, Pierre,
SD 57501



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

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

January 6, 1995

5656-3

Pete McFadden
US Fish & Wildlife Service
Federal Building, Room 113
Huron, SD 57350

Dear Mr. McFadden:

Enclosed, as you requested is a copy of Water Permit No. 5656-3. I also included a copy of the map and design report.

If you have any questions, please contact me.

Sincerely,

Genny McMath
Environmental Scientist
Water Rights Division
(605) 773-3352

enclosures

FIELD INVESTIGATION REPORT FOR PERMIT NO. 5656-3

DATE OF INVESTIGATION:	June 18, 2002
NAME & ADDRESS OF INVESTIGATION CONTACT/ RELATIONSHIP TO PERMIT HOLDER, IF APPLICABLE	Dean Strand 25699 407th Avenue Mitchell SD 57301
NAME & ADDRESS OF PERMIT HOLDER	Dean Strand
DIVERSION POINT LEGAL LOCATION	NE ¼ NE ¼ Section 7, T102N, R60W

WATER SUPPLY Source: unnamed drainage (dry draw)

DAM INFORMATION: approximate measurements

- 1) Height to crest **12** feet (1321.5 fmsl) 2) Height to primary spillway **9** feet (1318.5 fmsl top of riser)
- 3) Height to secondary spillway **10.5** ft (1320 fmsl) 4) Crest width **12** feet
- 5) Crest length **approx. 1200** feet (two berms) 6) Spillway length **not measured** feet
- 7) Spillway width **40** feet 8) Approx. storage **40.9 full service elevation** ac-ft
- 9) Approx. storage to crest **approx. 83** ac-ft 10) Date constructed: **1992**
- 11) Outlet tubes:
 - a) diameter **30** inches (according to plans)
 - b) type **steel stop log control structure with CMP pipe**
 - c) valved **yes**
 - d) valve type **steel stop log**
 - e) location on structure **see lat/lon description**
- 12) Category of Dam **Category 3 (low hazard)** 13) Inspection Sheet Completed **no**

PERMIT QUALIFICATIONS AND REGULATIONS:

- 1) Special qualifications to permit being abided by **Yes**
 - 2) All structures on map **Yes**
 - 3) Irrigation Questionnaires checked to determine if permit owner started irrigation by the end of construction period **not applicable**
- Because of dry conditions, water levels were low at the time of the license investigation.
 - Water from the outlet structure may be diverted to seasonal wetlands in the NW ¼ of Section 8 and the SW ¼ of Section 5. These small wetlands have location notices on file (Nos. 71569, 72897 and 72892)

Permit No. 5656-3
James River - Water District

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

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

I have this day, June 18, 2002, made a thorough examination of the water use system constructed by Dean Strand of 25699 407th Avenue, Mitchell SD 57301 holder of Permit No. 5656-3, bearing the priority of August 6, 1992 authorizing the storage of 40.9 acre-feet of the waters of unnamed drainage for wildlife production purposes, in Davison County.

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

A. Works used to divert the water:

Water is impounded in place by a dam as shown on map

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

Dam impounds water for this wetland restoration project

C. Works used to apply water to beneficial use:

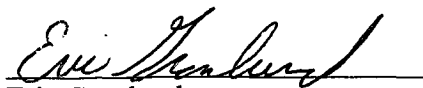
steel stop log control structure is in place to make releases from dam – no irrigation takes place

The system is in the following condition good. The point of diversion is located dam is located in the NE ¼ NE ¼ Section 7, T102N, R60W (control structure is located approximately 570 feet south and 100 feet west of NE corner of Section 7, T102N, R60W). The works are capable of storing 40.9 acre-feet of water which is to be used for wildlife production. Water has been put to beneficial use to the maximum extent impounding water in portions of the N ½ NE ¼ Section 7, T102N, R60W.

and the license should be issued for 40.9 acre-feet of storage.

Applicable permit qualifications have been complied with: Yes

Exceptions to compliance are: none Date Report Completed: July 18, 2002

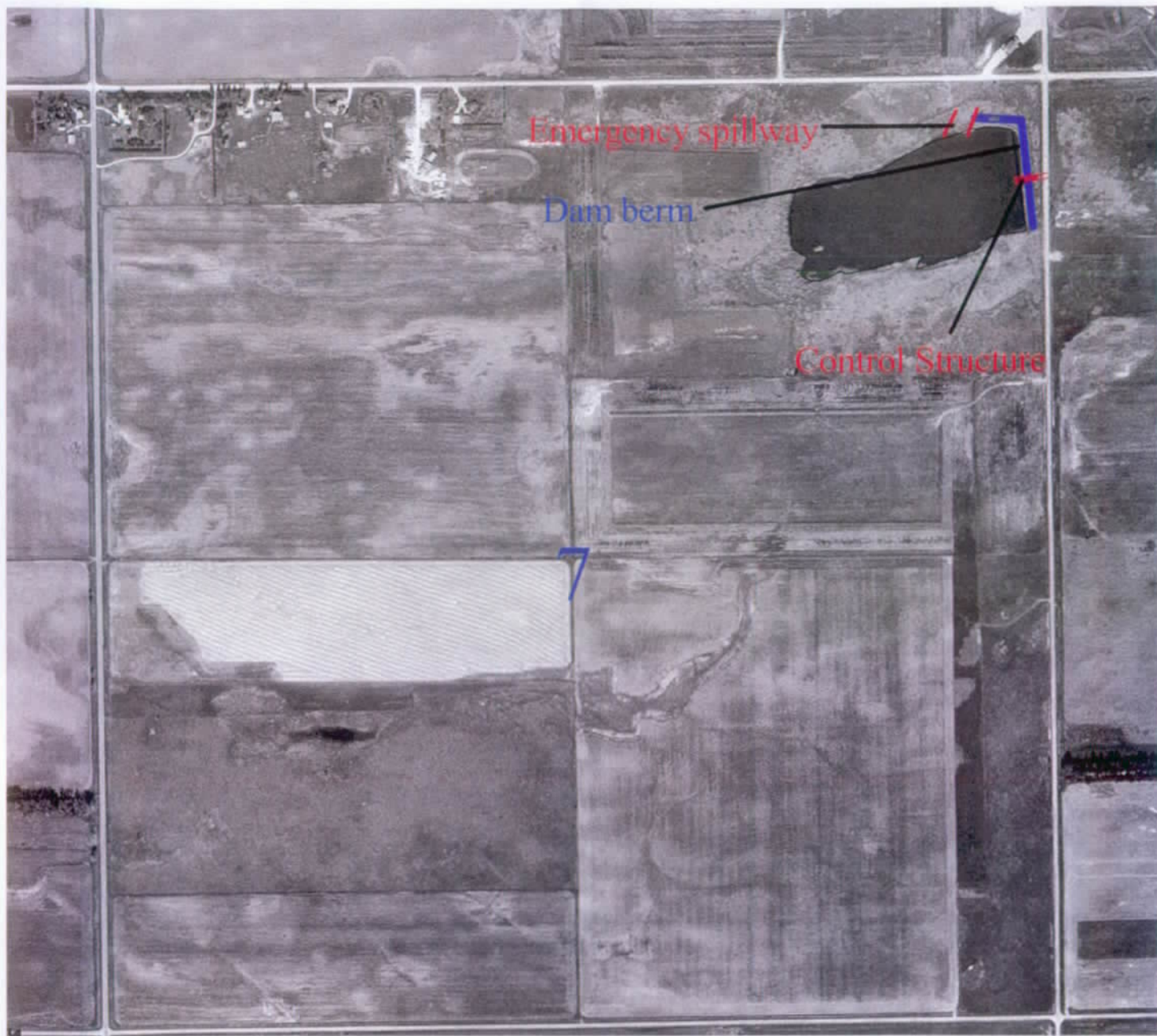


Eric Gronlund

Natural Resources Engineer

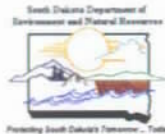
DENR, Water Rights Program

Water Permit No. 5656-3, Dean Strand



1000 0 1000 2000 Feet

Dam to create wetland is located in the NE 1/4 NE 1/4 Section 7, T102N, R60W.
Control structure is located a N43.6564 & W- 98.0670



Eric Gronlund
Eric Gronlund
Water Rights Program
Inspection date - June 18, 2002

STATE OF SOUTH DAKOTA

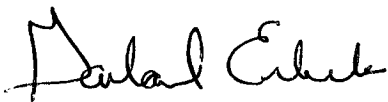
WATER LICENSE NO. 5656-3

(1) Dean Strand, 25699 407th Avenue, Mitchell SD 57301 made Application No. 5656-3, April 20, 1992 for a water permit to impound 40.9 acre-feet of water from an unnamed drainage, Davison County, South Dakota for wildlife propagation purposes. Permit No. 5656-3, with a priority date of April 20, 1992 was approved August 6, 1992 and issued to the applicant for diversion of water with construction of the described water supply system to be completed on or before August 6, 1997 and for the application to beneficial use of said water on or before August 6, 2001.

(2) It is certified that the permit holder has complied with the provisions of South Dakota State Law relating to completion of the construction of the storage dam and is entitled to impound 40.9 acre-feet of water for beneficial use with sufficient water annually to maintain the water level to the outlet elevation. The location of the storage dam (control structure) is 570 feet south and 100 feet west of the northeast corner of Section 7-T102N-R60W (NE ¼ NE ¼).

(3) The permit holder 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 Dean Strand, 25699 407th Avenue, Mitchell SD 57301 the holder and/or owner of Water Right No. 5656-3 is issued a license to appropriate water, the right to impound 40.9 acre-feet of water from an unnamed drainage with sufficient water annually to maintain the water level to the outlet elevation with a priority date of April 20, 1992 from the location specified in (2) of this license for wildlife propagation purposes. This license is subject to any limitations or qualifications listed in Water Right No. 5656-3 and subject to South Dakota State Law.



Garland Erbele, Chief Engineer
Water Rights Program
Department of Environment and Natural Resources

SEP 20 2002

date





**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3182
www.state.sd.us/denr

July 18, 2002

5656-3

Dean Strand
25699 407th Avenue
Mitchell SD 57301

Dear Mr. Strand:

On June 18, 2002 the investigation of your water use system, including the extent of application of water to beneficial use, as developed under Water Permit No. 5656-3, was completed by Eric Gronlund, a staff engineer with our program. Your final water right document, the water license, can now be issued.

State law requires that we charge a \$50.00 fee for the investigation and issuance of the water license. Upon receipt of the \$50.00 fee from you, we will complete processing your water license. The check or money order for the fee should be made payable to the "Water Rights Program".

Your licensed water right will be similar to a property right that can not be lost as long as the water use continues and you abide by the permit requirements.

If you have any questions regarding the water permit, investigation of your water use system or payment of the fee, please contact Genny McMath with our program at (605) 773-3352.

Sincerely,

Karen Schlaak
Water Rights Program
(605) 773-3352

RECEIPT

Water Rights Program

South Dakota Department of Environment and Natural Resources

417254

Pierre, July 29, 2002

RECEIVED OF Dean Strand, 25699 407th Avenue, Mitchell SD 57301
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. 5656-3

50 00

Fee for Filing Transfer Form _____

Fee for Filing Extension Request _____

Fee for _____

(Any Other Work Provided by Law)

Total

50 00

By

Darlene Elvick
Chief Engineer

gm



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3182
www.state.sd.us/denr

SEP 20 2002

5656-3

Dean Strand
25699 407th Avenue
Mitchell SD 57301

Dear Mr. Strand:

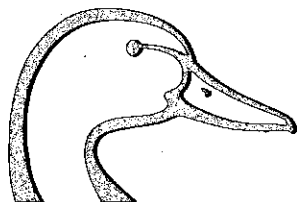
Enclosed is Water License No. 5656-3. This is the final water right document completing your process of obtaining a Water Right. Enclosed is Receipt No. 417254 in the amount of \$50.00 which you paid for the investigation and issuance of the Water License.

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.

Sincerely,

Garland Erbele, Chief Engineer
Water Rights Program
(605) 773-3352

enclosures



DUCKS UNLIMITED

DUCKS UNLIMITED

PROJECT

DEAN STRAND WETLAND
SECTIONS 5, 7 & 8, TOWNSHIP 102 NORTH, RANGE 60 WEST,
DAVISON COUNTY, SOUTH DAKOTA

IN COOPERATION WITH

SOUTH DAKOTA GAME, FISH & PARKS

SPECIFICATIONS

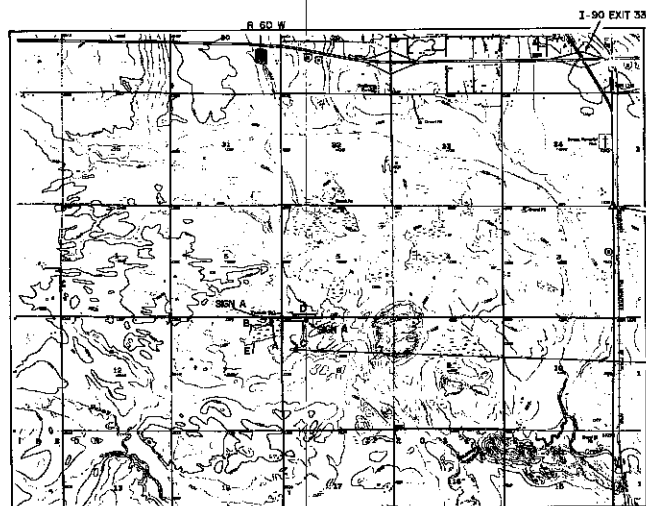
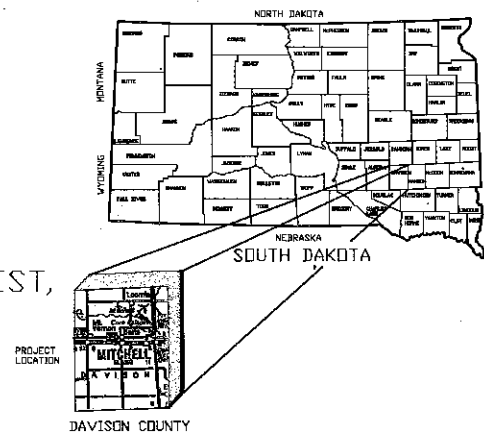
GENERAL CONDITIONS	101
MOBILIZATION	201
SITE PREPARATION	202
EXCAVATION	203
EMBANKMENT CONSTRUCTION	204, 204A
WATER	205
WATER CONTROL	
STRUCTURE INSTALLATION	206
WATER CONTROL STRUCTURE	
& CULVERT APPURTENANCES	206A
CULVERT INSTALLATION	207
CAST-IN-PLACE	
REINFORCED CONCRETE	208
RIPRAP PLACEMENT	209

PLAN INDEX

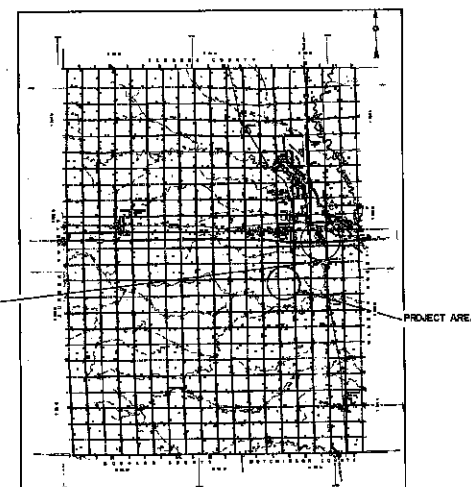
VICINITY MAP	1
PROJECT TOPOGRAPHY	2
EMBANKMENT A, B & E	
SITE TOPOGRAPHY	3
EMBANKMENT A PLAN & PROFILES	4
EMBANKMENT A STRUCTURE DETAILS	5
EMBANKMENT B & E PROFILES,	
SPILLWAY DETAILS	6
EMBANKMENT C SITE TOPOGRAPHY	7
EMBANKMENT C PROFILES	8
EMBANKMENT D SITE TOPOGRAPHY	9
EMBANKMENT D PROFILE	10
SOILS INFORMATION	11

QUANTITIES

MOBILIZATION	1 L.S.
SITE PREPARATION	2,338 C.Y.-P
EMBANKMENT*	14,398 C.Y.-S
WATER	XXX M-GAL.
WATER CONTROL STRUCTURE	
A) 48" Ø RISER, 6 L.F.	1 L.S.
APPURTENANCES	1 INC.
CULVERT INSTALLATION	
A) 30" Ø CMP	44 L.F.
B) 24" Ø CMP	70 L.F.
C) 12" Ø CMP	8 L.F.
RIPRAP	12 C.Y.-P
* INCLUDES 15% FOR SHRINKAGE	

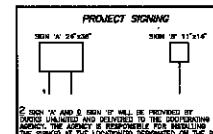


VICINITY MAP

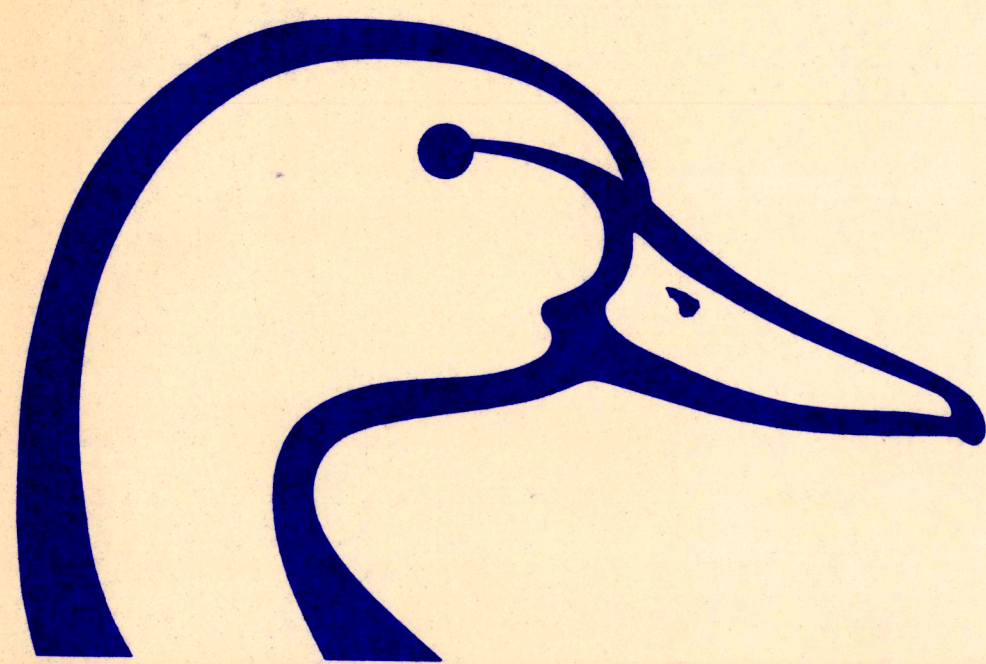


COUNTY MAP

LANDOWNER:
DEAN STRAND
(605) 996-4676
AGENCY CONTACT:
ARDEN PETERSON
SDGF&P
(605) 339-6621



	DUCKS UNLIMITED INC. GREAT PLAINS REGIONAL OFFICE 315 S. 10TH ST. SIOUX FALLS, SD 57104	PROJECT NO. SD-128-1 DEAN STRAND WETLAND SHEET NO. 1 OF 11 DATE: 5-8-92	DESIGNED BY: D.J.L. CHECKED BY: R. CADD DRAWN BY: J.P. APPROVED BY:
	PROJECT LOCATION: DAVISON COUNTY, SOUTH DAKOTA		



DUCKS UNLIMITED

SPECIFICATIONS

GENERAL CONDITIONS	101
MOBILIZATION	201
SITE PREPARATION	202
EXCAVATION	203
EMBANKMENT CONSTRUCTION	204,204A
WATER	205
WATER CONTROL	
STRUCTURE INSTALLATION	206
WATER CONTROL STRUCTURE	
& CULVERT APPURTENANCES	206A
CULVERT INSTALLATION	207
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EMBANKMENT C SITE TOPOGRAPHY	7
EMBANKMENT C PROFILES	8
EMBANKMENT D SITE TOPOGRAPHY	9
EMBANKMENT D PROFILE	10
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DUCKS UNLIMITED

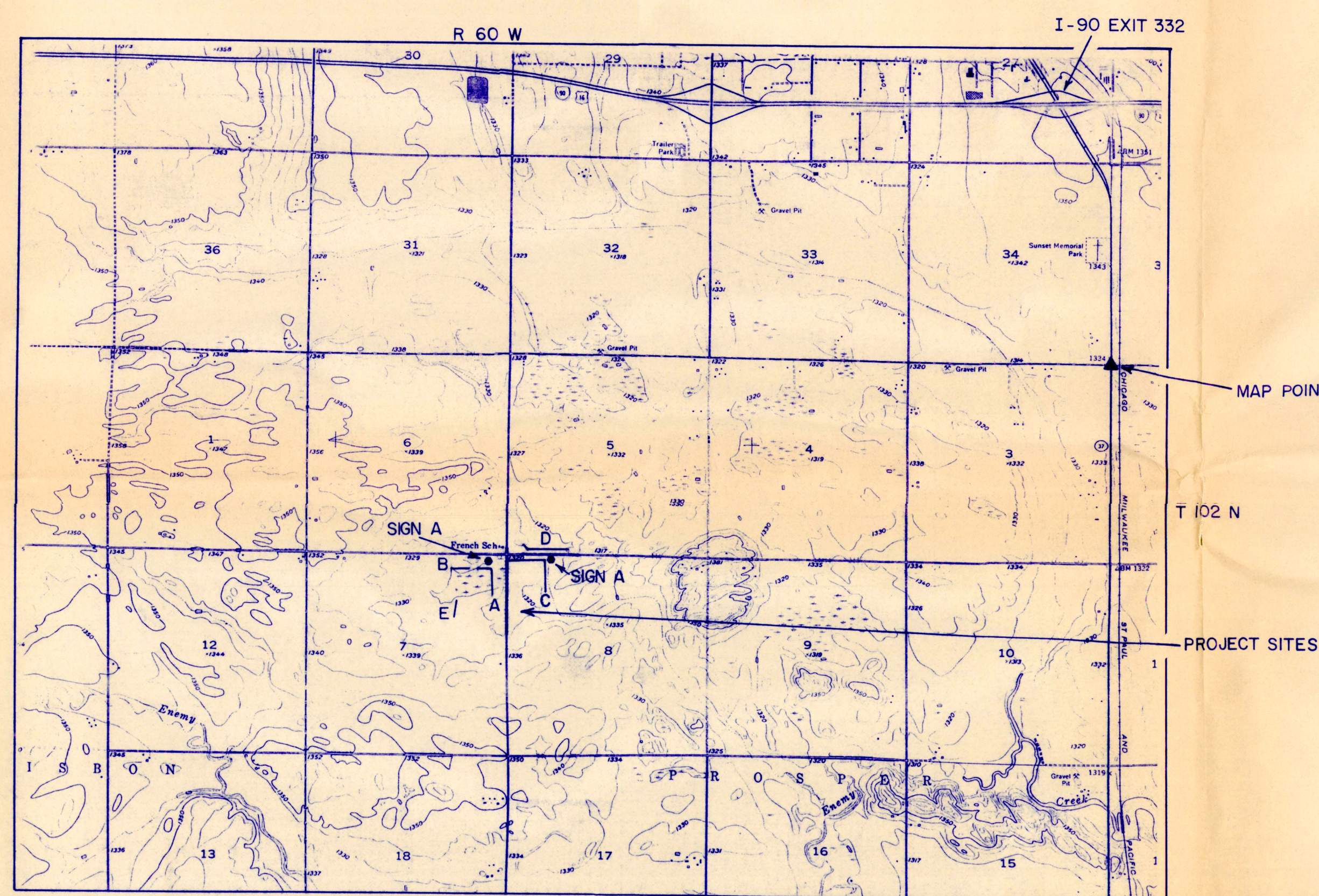
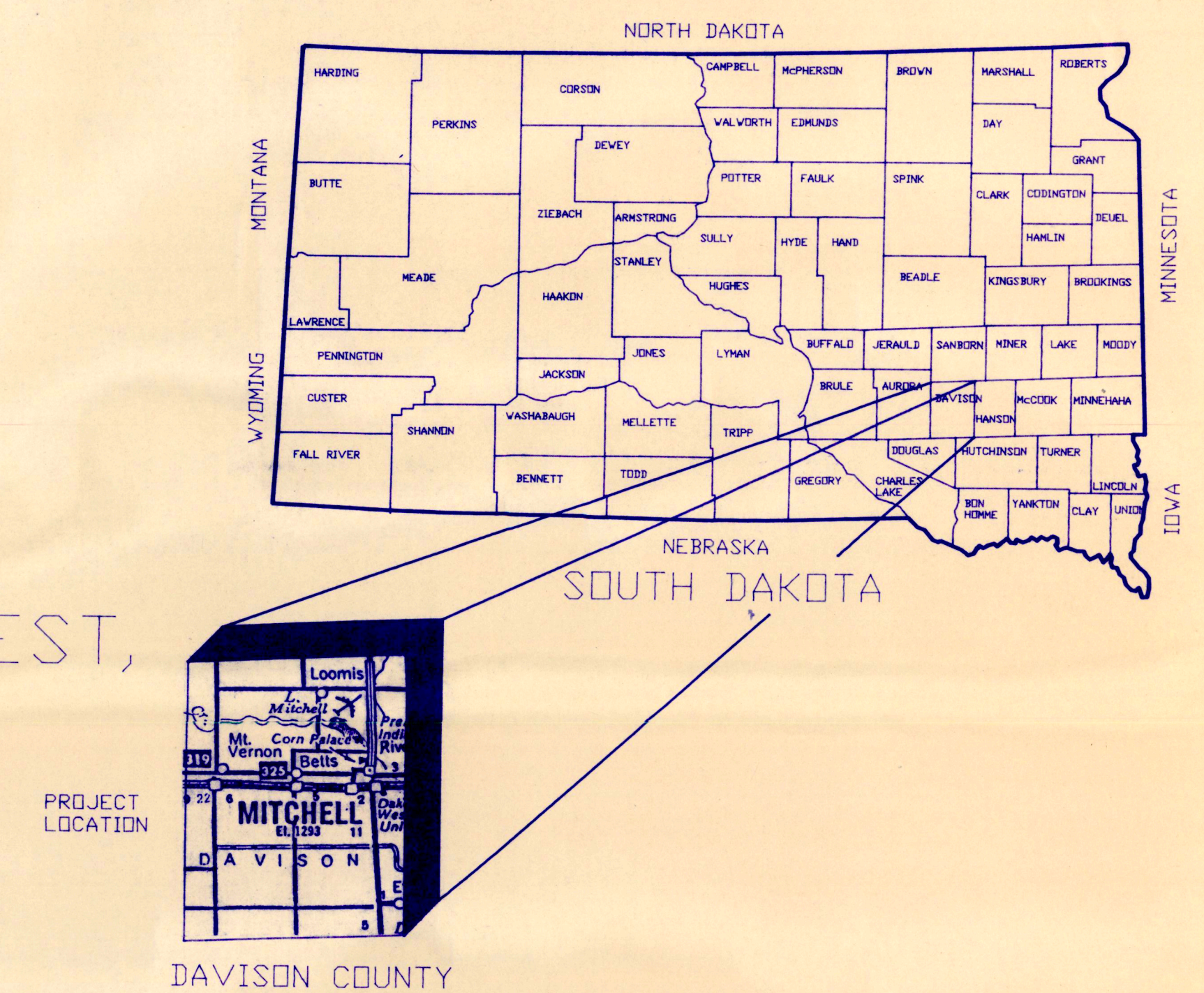
PROJECT

DEAN STRAND WETLAND
SECTIONS 5,7 & 8, TOWNSHIP 102 NORTH, RANGE 60 WEST,
DAVISON COUNTY, SOUTH DAKOTA

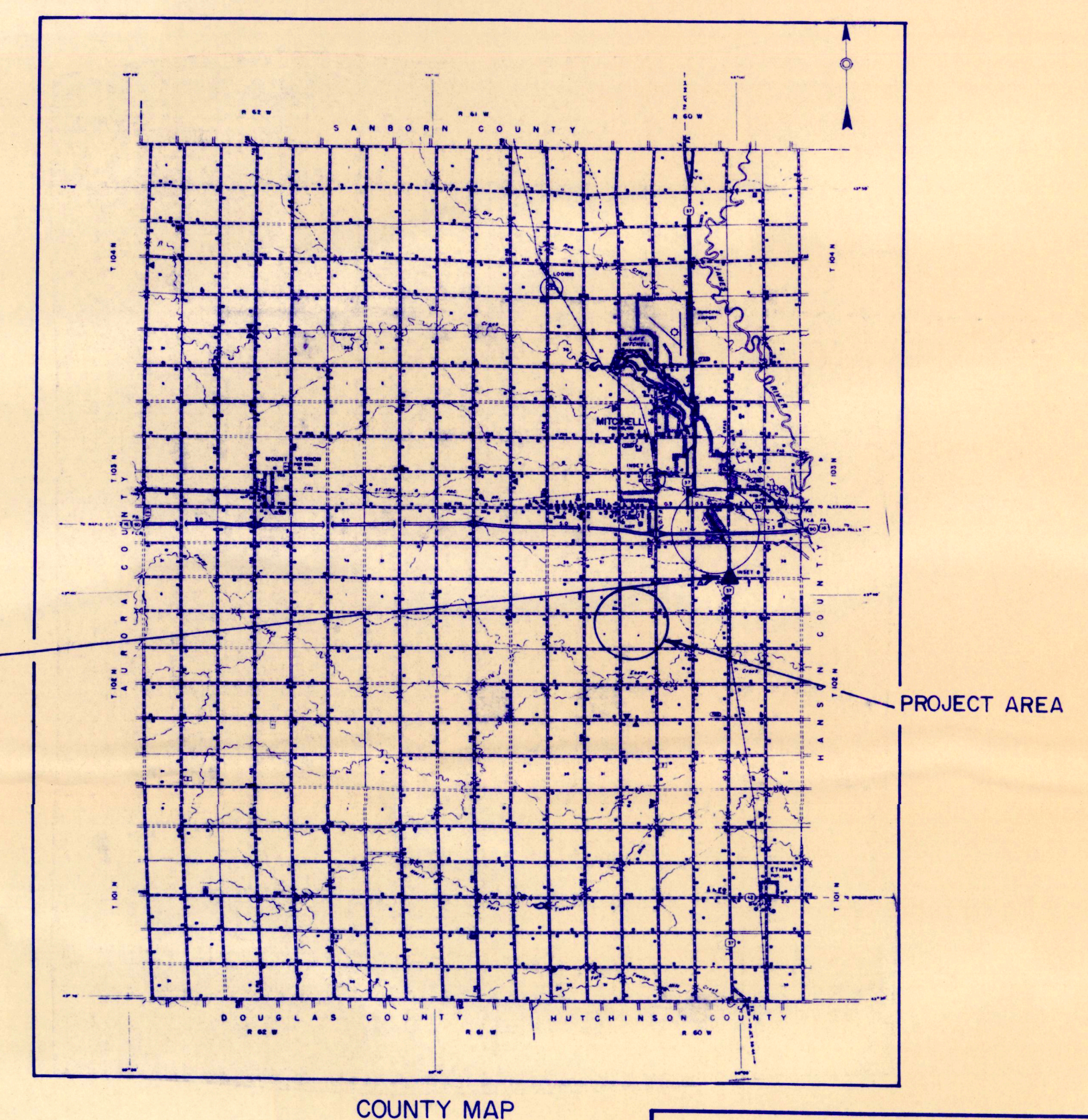
IN COOPERATION WITH

SOUTH DAKOTA GAME, FISH & PARKS

5656-3

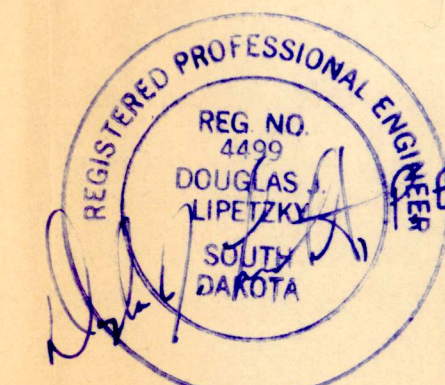
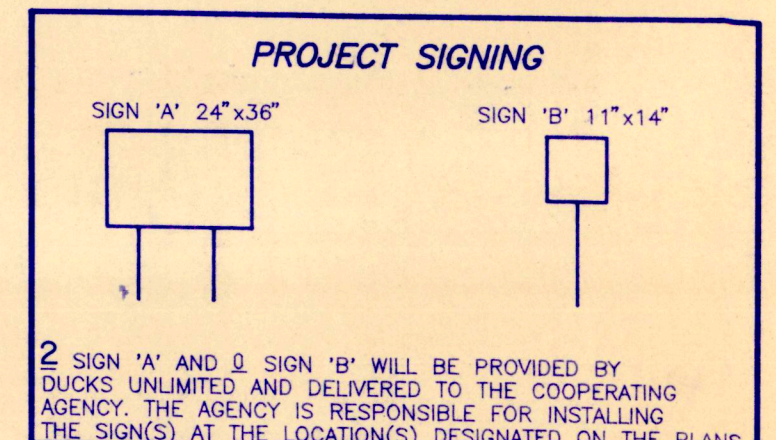


VICINITY MAP



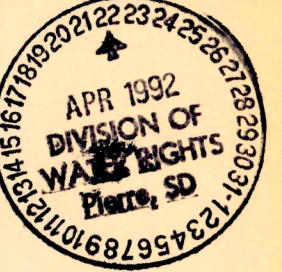
COUNTY MAP

LANDOWNER:
DEAN STRAND
(605)996-4676
AGENCY CONTACT:
ARDEN PETERSON
SDGF&P
(605)339-6621

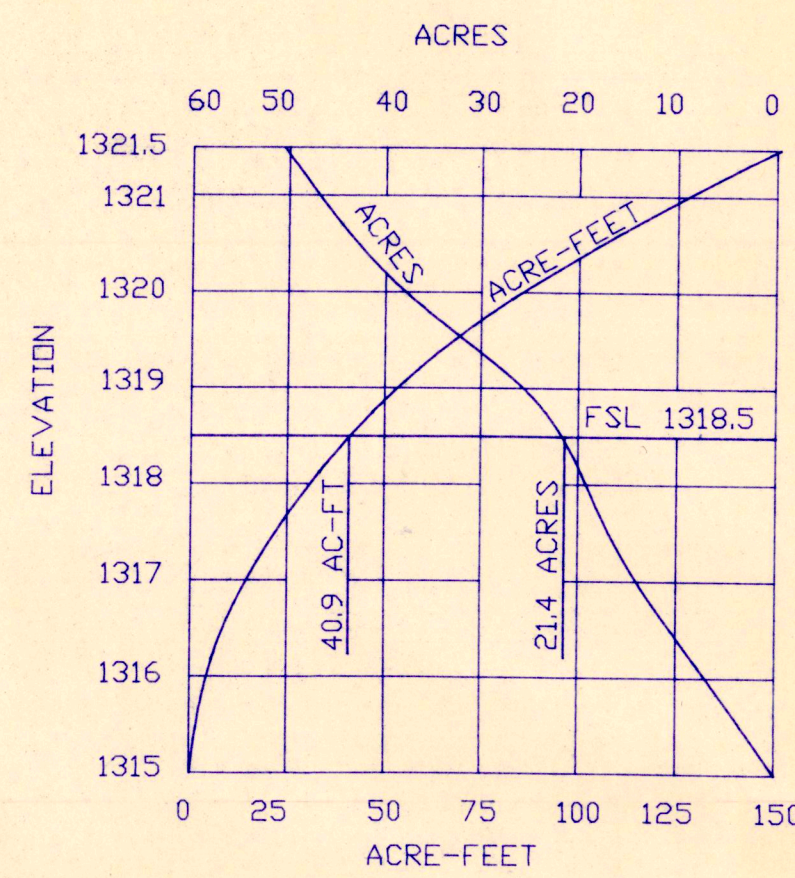


	DUCKS UNLIMITED INC.	PROJECT NO. SD-128-1	DESIGNED BY: D.J.L.
	GREAT PLAINS REGIONAL OFFICE	DEAN STRAND WETLAND	DRAWN BY: CADD
VICINITY MAP		CHECKED BY:	APPROVED BY:
DATE: 3-5-92	SHEET NO: 1 OF 11		

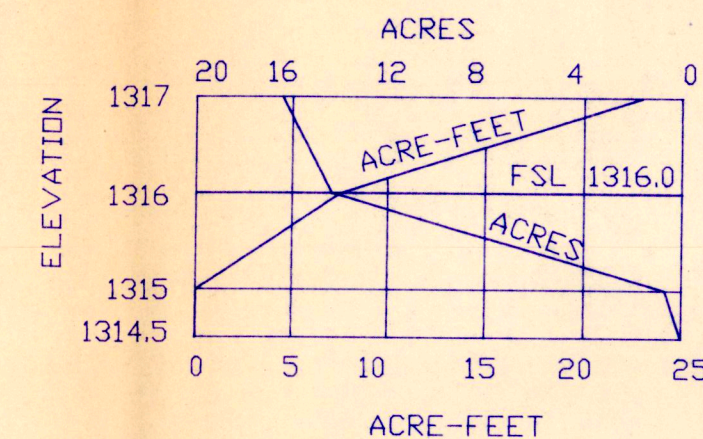
5656-3



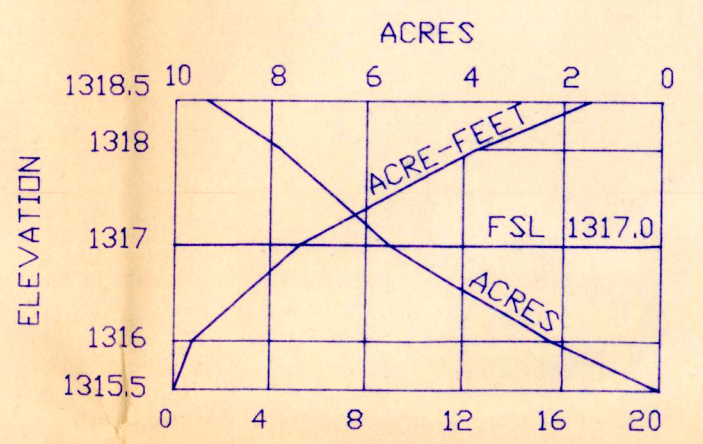
POOL 1 MARSH DATA	
FULL SUPPLY LEVEL (F.S.L.)	1318.5
FLOODED AREA AT F.S.L.	21.4 ACRES
CAPACITY AT F.S.L.	40.9 AC-FT
POOL 2 MARSH DATA	
FULL SUPPLY LEVEL (F.S.L.)	1316.0
FLOODED AREA AT F.S.L.	14.3 ACRES
CAPACITY AT F.S.L.	7.5 AC-FT
POOL 3 MARSH DATA	
FULL SUPPLY LEVEL (F.S.L.)	1317.0
FLOODED AREA AT F.S.L.	6.1 ACRES
CAPACITY AT F.S.L.	5.3 AC-FT



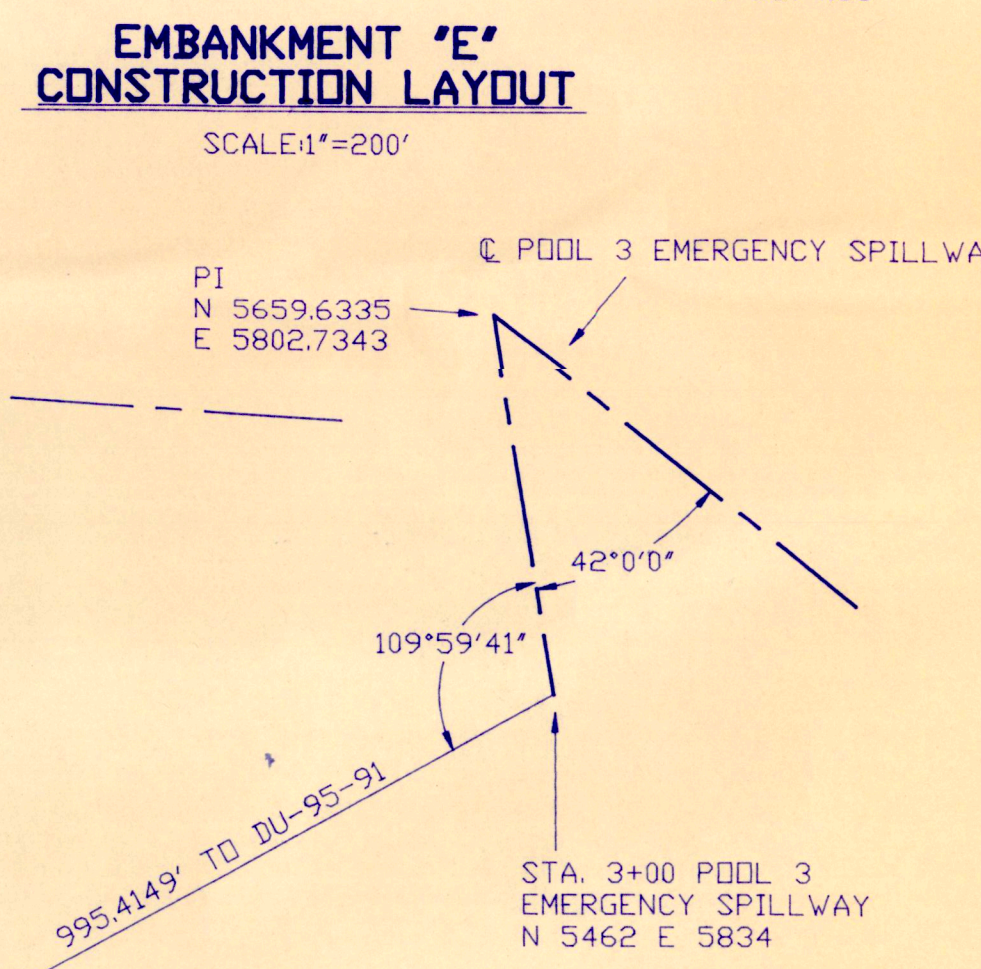
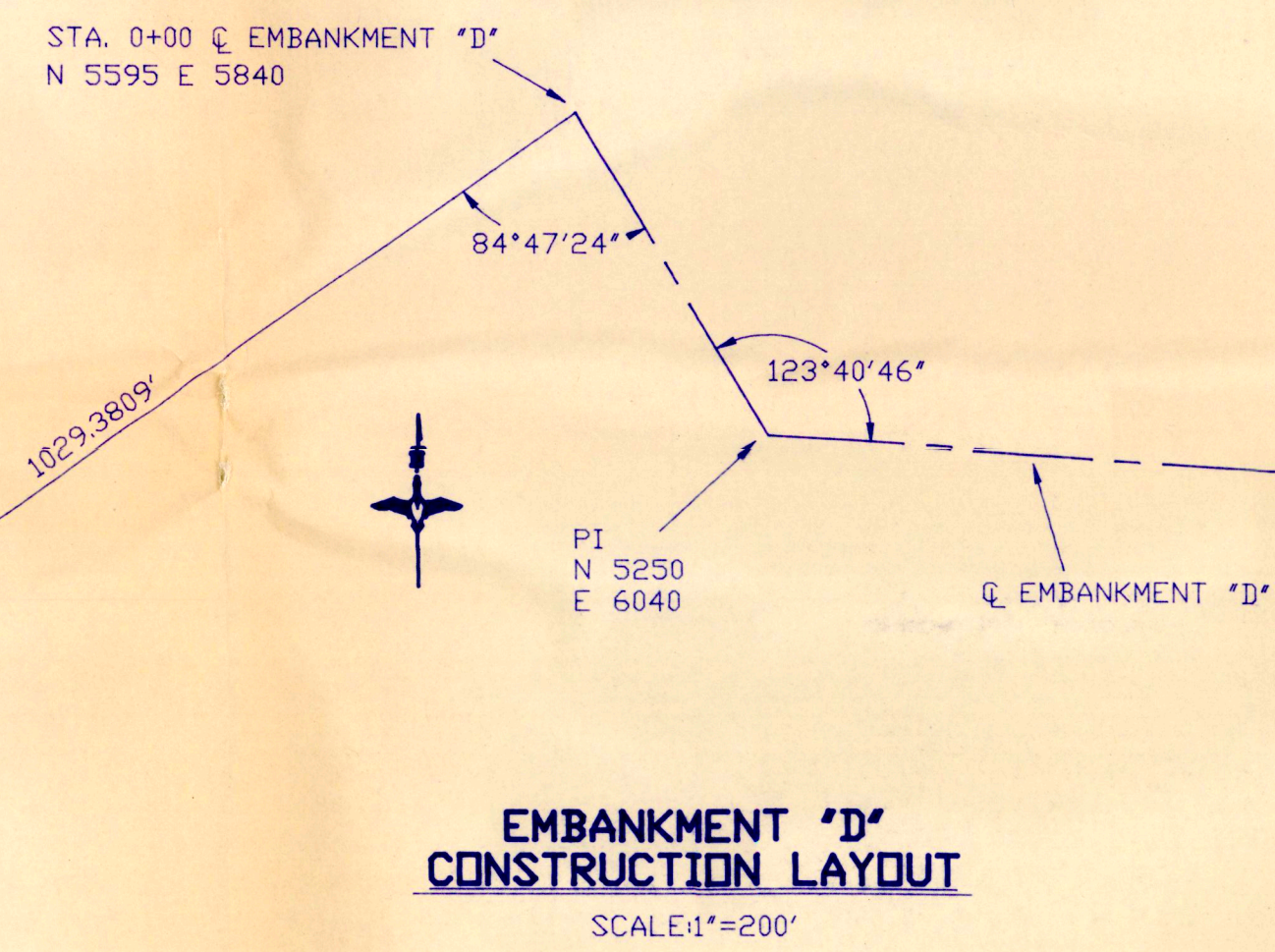
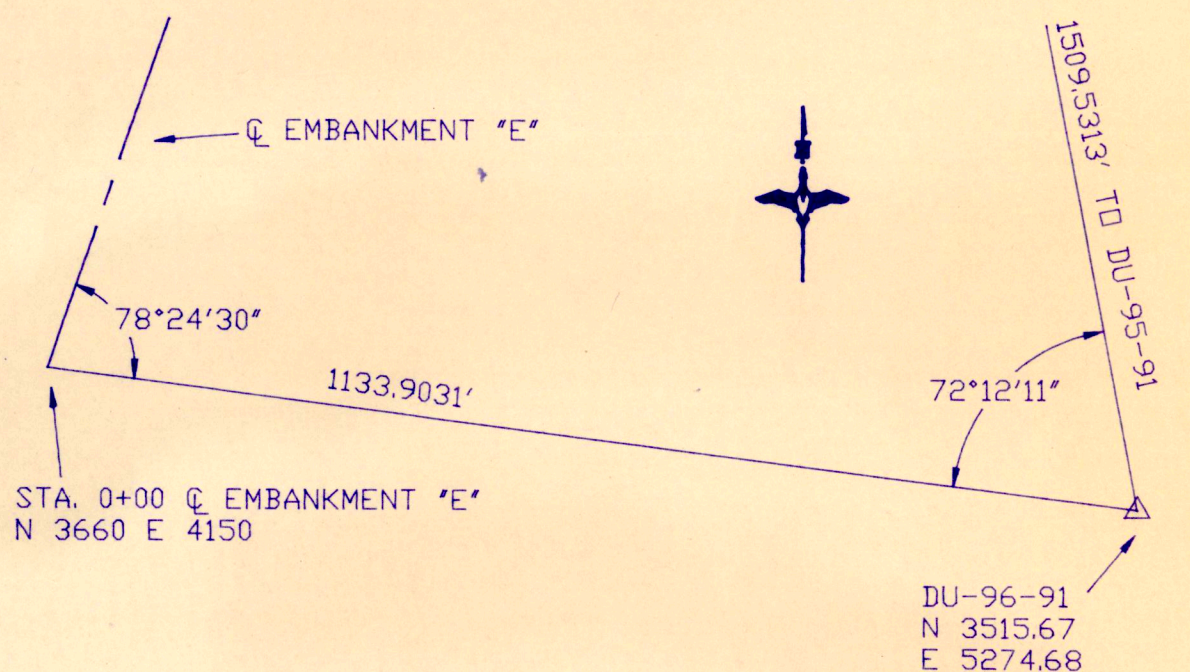
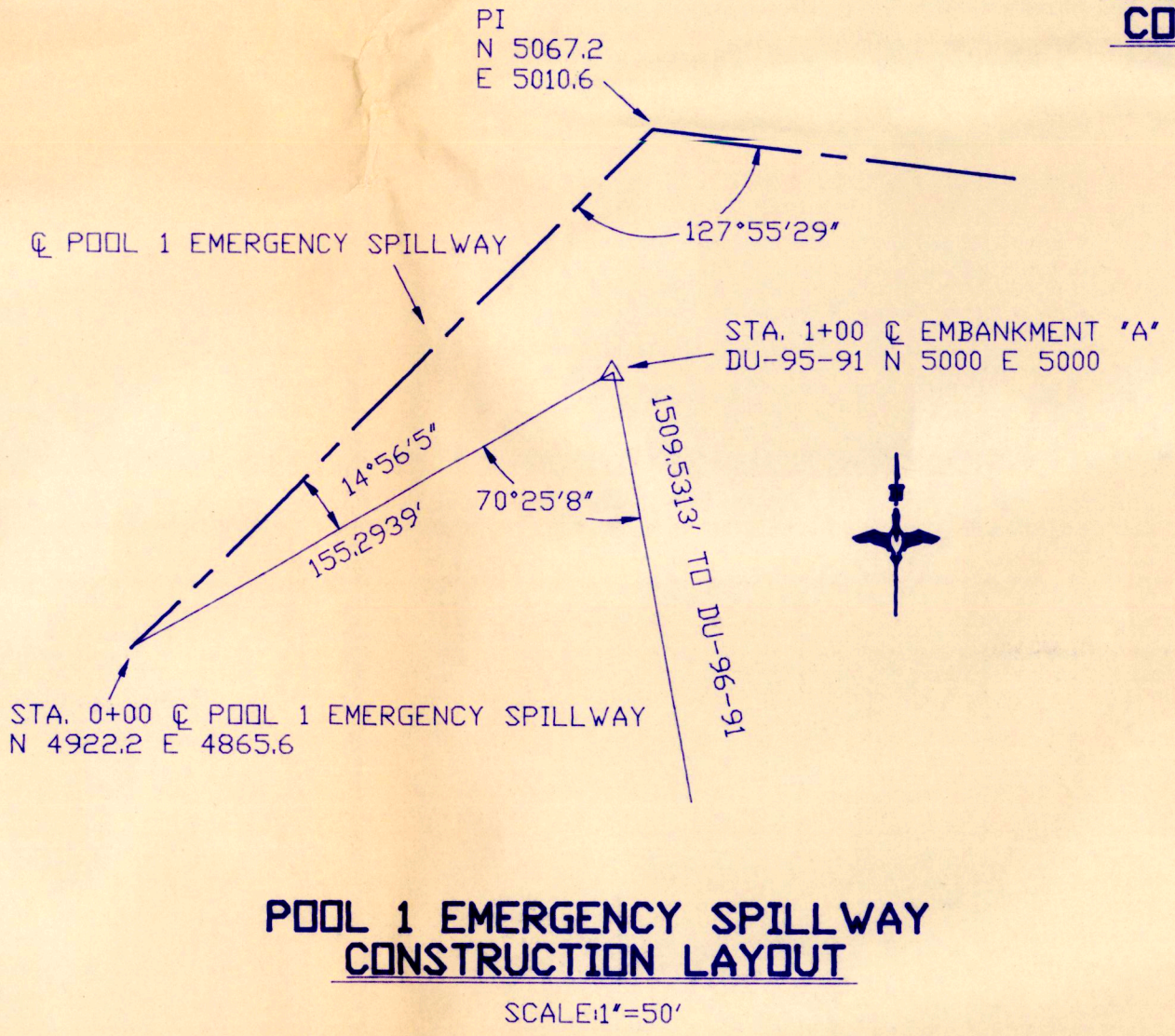
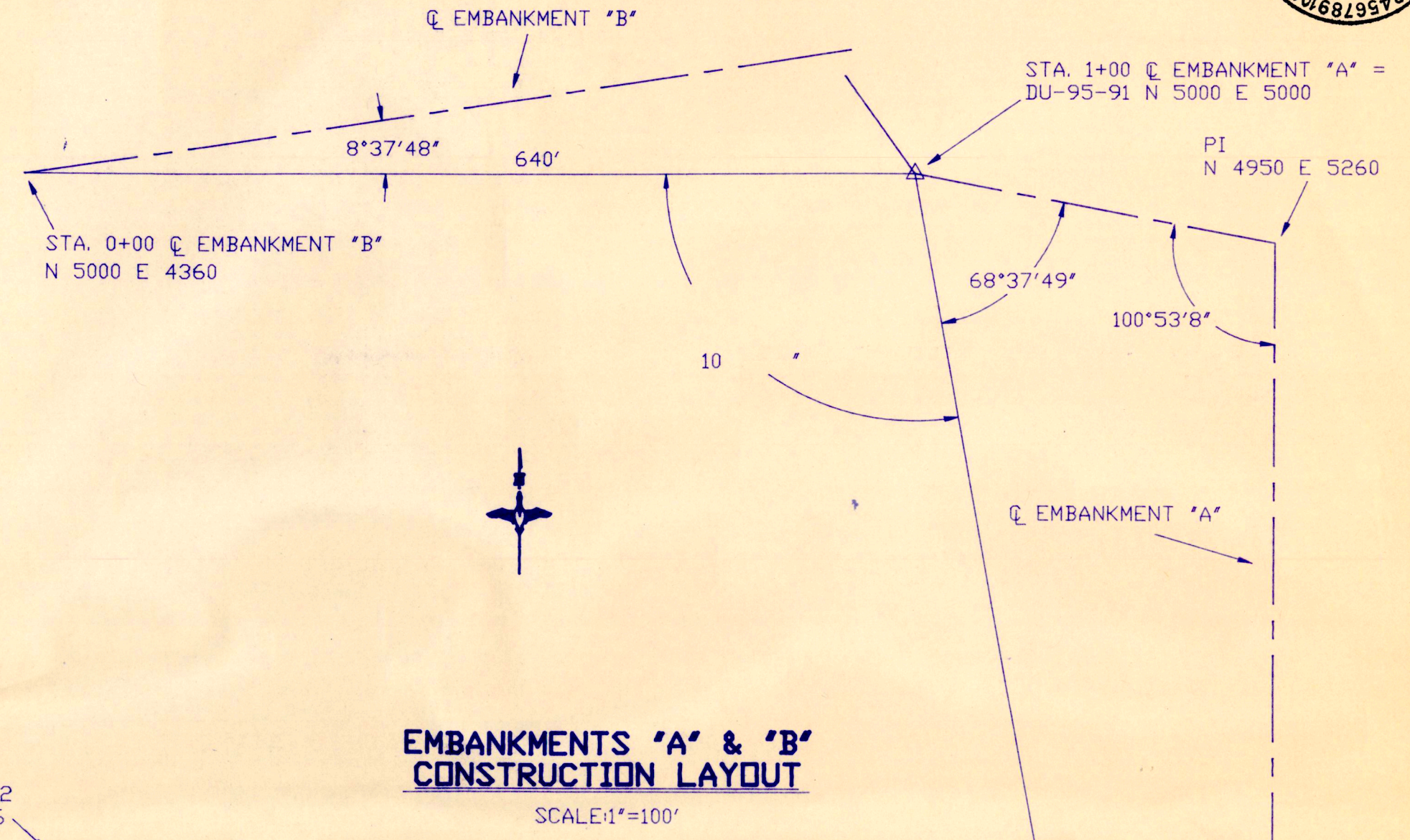
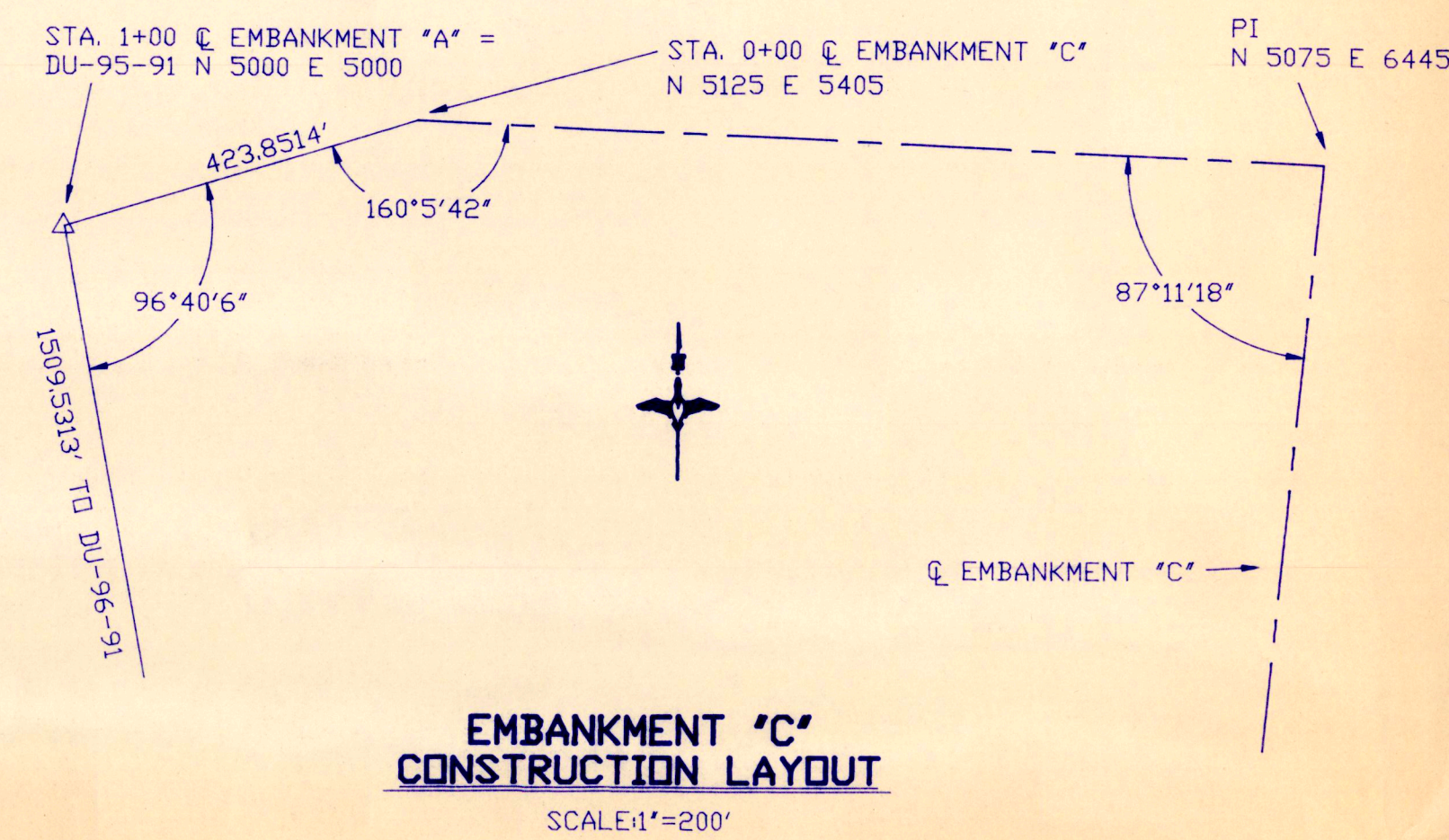
POOL 1
AREA-CAPACITY CURVES



POOL 2
AREA-CAPACITY CURVES

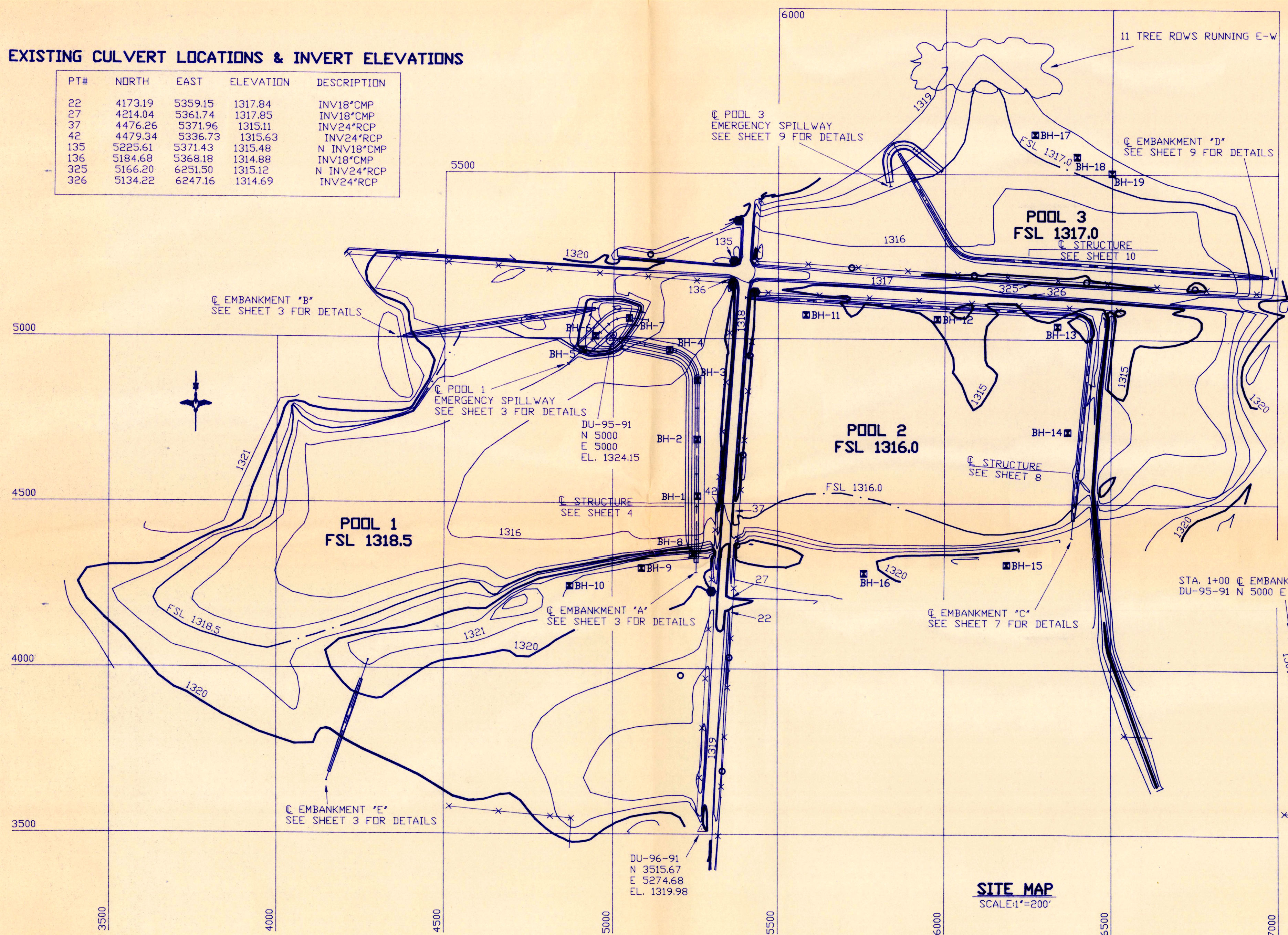


POOL 3
AREA-CAPACITY CURVES



EXISTING CULVERT LOCATIONS & INVERT ELEVATIONS

PT#	NORTH	EAST	ELEVATION	DESCRIPTION
22	4173.19	5359.15	1317.84	INV18" CMP
27	4214.04	5361.74	1317.85	INV18" CMP
37	4476.26	5371.96	1315.11	INV24" RCP
42	4479.34	5336.73	1315.63	INV24" RCP
135	5225.61	5371.43	1315.48	N INV18" CMP
136	5184.68	5368.18	1314.88	INV18" CMP
325	5166.20	6251.90	1315.12	N INV24" RCP
326	5134.22	6247.16	1314.69	INV24" RCP



- LEGEND**
- = FENCE
 - = POWER POLE
 - = UG TELE BOX OR UG FIBER OPTICS BOX (DO NOT DISTURB)
 - △ = DU CONTROL POINT, #5 REBAR CAPPED & STAMPED
 - = APPROX. SOIL BORING LOCATIONS (SEE SHEET 11 OF 11 FOR SOILS INFORMATION)

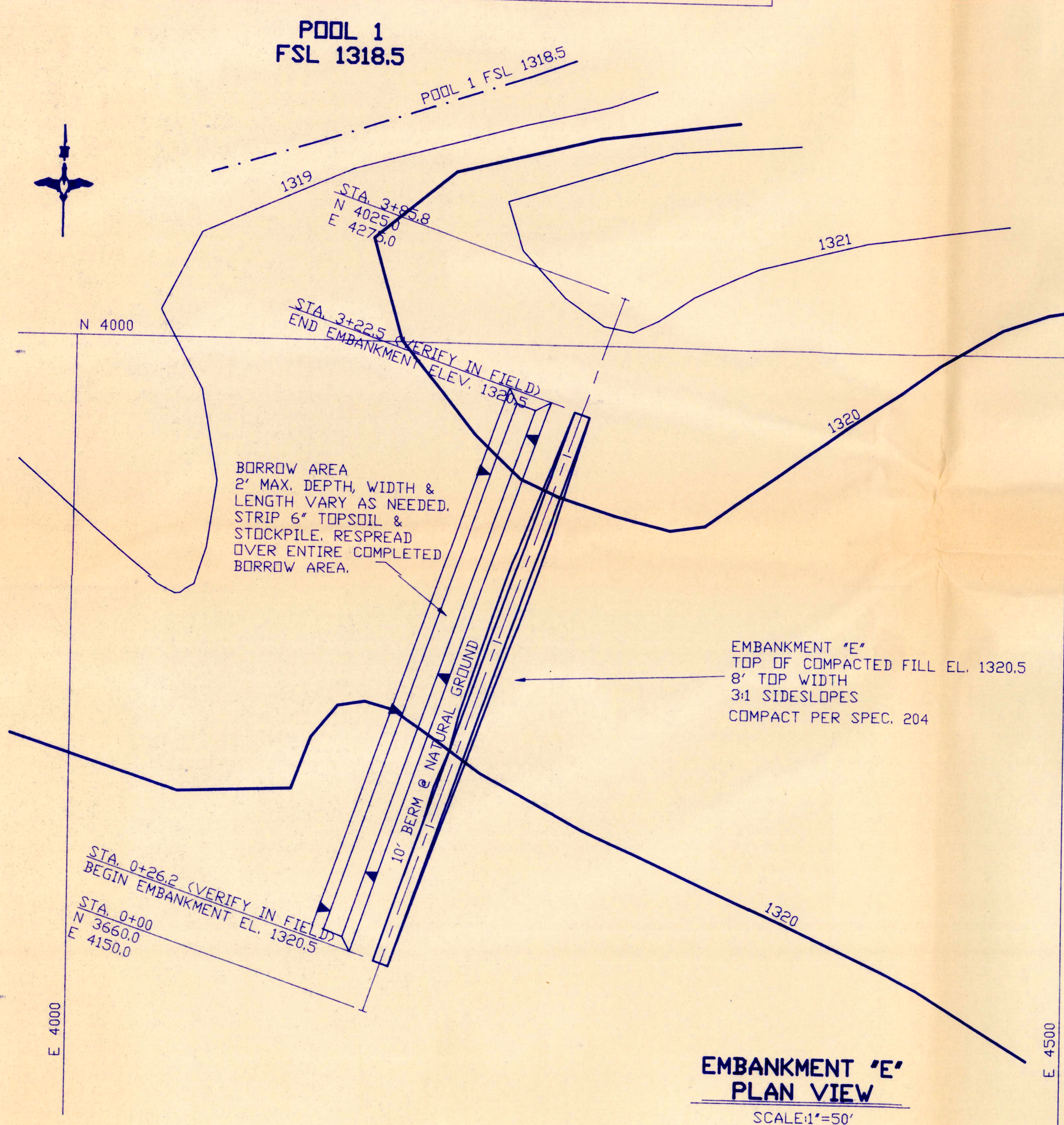
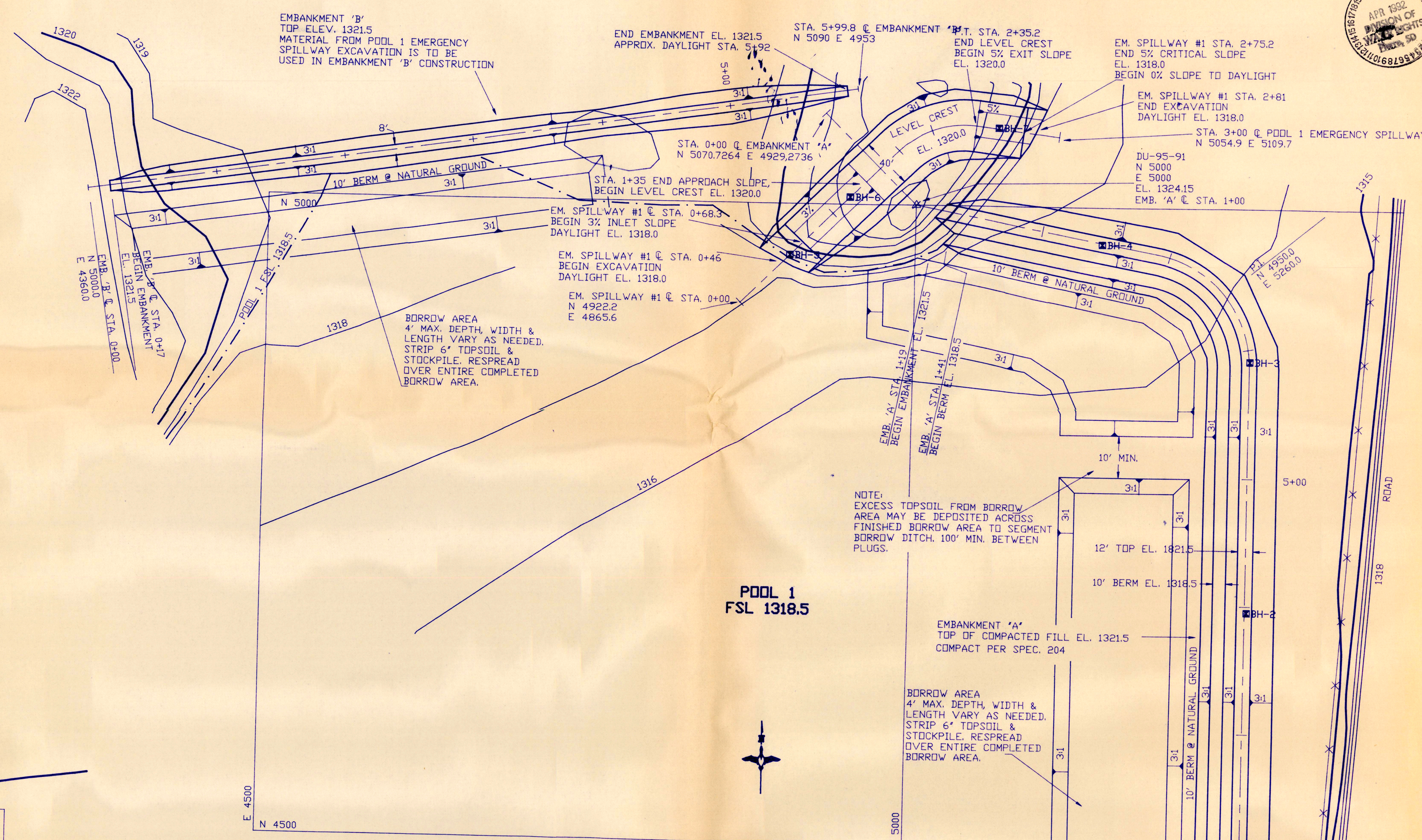
DUCKS UNLIMITED INC. GREAT PLAINS REGIONAL OFFICE	PROJECT NO. SD-128-1	DESIGNED BY: D.J.L.
	DEAN STRAND WETLAND	DRAWN BY: J. TE CADD
	PROJECT TOPOGRAPHY	SURVEYED BY:
	DATE: 3-5-92	SHEET NO: 2 OF 11
APPROVED BY:		APPROVED BY:

5656-3



CONSTRUCTION LAYOUT INFORMATION

EMBANKMENT "A" STA. 0+00 N 5070.7264 E 4929.2736 STA. 0+60 @ EMB = STA. 1+50 @ POOL 1 E.S. N 5028.3 E 4971.7 STA. 1+00 = DU-95-91 N 5000 E 5000 PC STA. 2+89.8 N 4964.164 E 5186.3473 RADIUS POINT N 4874.9978 E 5169.2 PT STA. 4+15.2 N 4874.9978 E 5260 STA. 10+00 N 4290 E 5260 CURVE DATA $\Delta = 79^{\circ}06'52"$ $R = 90.80'$ $T = 75.00'$ $L = 125.38'$ EL. 1321.5 TOP OF COMPACTED EMBANKMENT EL. 1318.5 TOP OF 10' BERM 12' TOP WIDTH, 3:1 SIDESLOPES	POOL 1 EMERGENCY SPILLWAY STA. 0+00 N 4922.2 E 4865.6 PC STA. 1+17.1 N 5042.4513 E 4985.8513 RADIUS POINT N 4991.7932 E 5036.5093 PT STA. 2+35.2 N 5062.889 E 5045.3335 STA. 3+00 N 5054.9 E 5109.7 CURVE DATA $\Delta = 52^{\circ}04'31"$ $R = 71.64'$ $T = 35.00'$ $L = 65.11'$ 40' BOTTOM WIDTH, 3:1 SIDESLOPES APPROX. STA. 0+46.1, BEGIN APPROACH CHANNEL, EL. 1318.0 APPROX. STA. 0+68.3, BEGIN 3% APPROACH SLOPE, EL. 1318.0 STA. 1+35 END APPROACH SLOPE, BEGIN LEVEL CREST EL. 1320.0 STA. 1+50 = STA. 0+60 EMBANKMENT "A" STA. 2+35.2 END LEVEL CREST, BEGIN 5% EXIT SLOPE STA. 2+75.2 END CRITICAL SLOPE, BEGIN EXIT CHANNEL, EL. 1318.0 STA. 2+81 END EXIT CHANNEL, EL. 1318.0
EMBANKMENT "B" STA. 0+00 N 5000 E 4360 STA. 5+99.8 N 5090 E 4953 EL. 1321.5 TOP OF COMPACTED EMBANKMENT 8' TOP WIDTH, 3:1 SIDESLOPES	
EMBANKMENT "E" STA. 0+00 N 3660 E 4150 STA. 3+85.8 N 4025 E 4275 EL. 1320.5 TOP OF COMPACTED EMBANKMENT 8' TOP WIDTH, 3:1 SIDESLOPES	



EMBANKMENTS "A" AND "B"
POOL 1 EMERGENCY SPILLWAY
PLAN VIEW
SCALE: 1"=50'

LEGEND

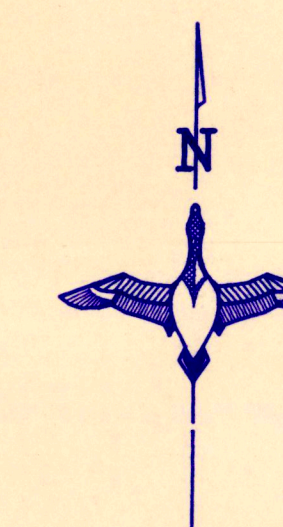
- X — = FENCE
- = POWER POLE
- = UG TELE BOX OR UG FIBER OPTICS BOX
- △ = DU CONTROL POINT, #5 REBAR CAPPED & STAMPED
- = FSL 1318.5
- = APPROX. SOIL BORING LOCATIONS
SEE SHEET 11 OF 11 FOR SOILS INFORMATION

ESTIMATED QUANTITIES

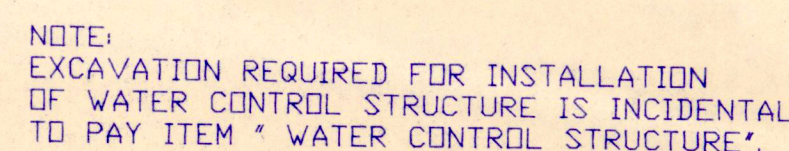
	SITE PREPARATION (CY)	EMBANKMENT (CY)
EMBANKMENT "A"	811	7123*
EMBANKMENT "B"	241	1229*
EMBANKMENT "E"	58	128*
TOTAL	1110 CY	8480 CY*

* INCLUDES 15% FOR SHRINKAGE
 POOL 1 E.S. EXCAVATION = 912 CY. HOWEVER, THIS IS A NON-PAY ITEM SINCE THE MATERIAL IS TO BE USED IN EMBANKMENT "B".

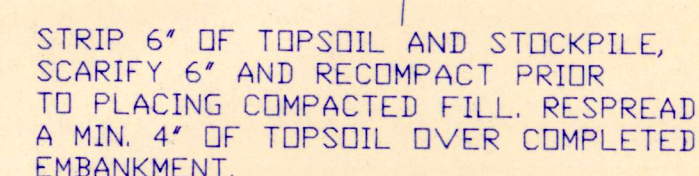
DUCKS UNLIMITED INC. GREAT PLAINS REGIONAL OFFICE	PROJECT NO. SD-128-1 DEAN STRAND WETLAND EMBANKMENTS A, B & E SITE TOPOGRAPHY	DESIGNED BY: D.J.L. DRAWN BY: STE. CAID SURVEYED BY: CHECKED BY:
	DATE: 3-5-92 SHEET NO: 3 OF 11 APPROVED BY:	APPROVED BY:



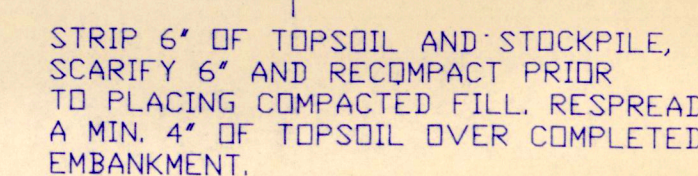
SCALE: 1"=5'



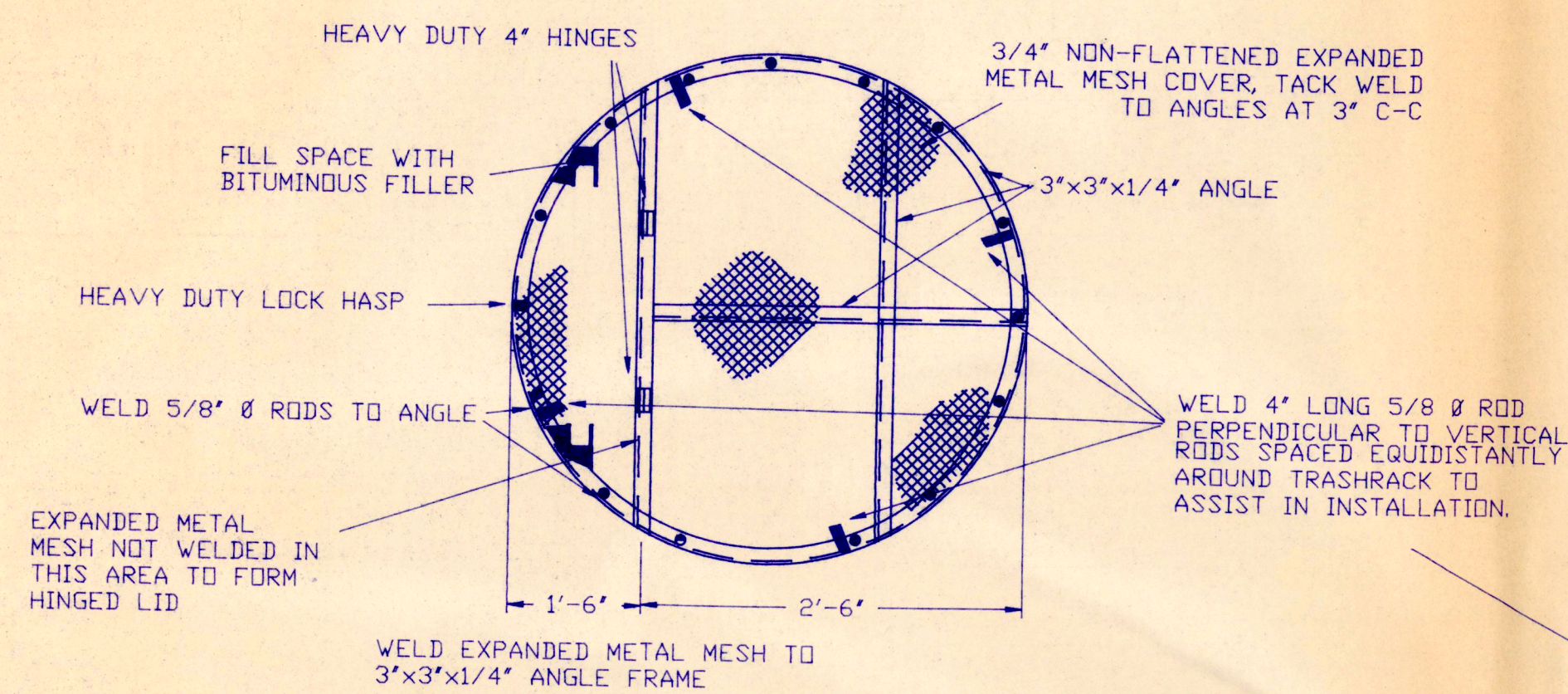
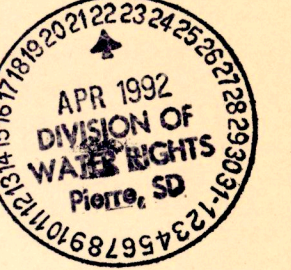
SCALE: 1"=5' HORIZ. & VERT.



SCALE: 1"=50' HORIZ., 1"=5' VERT.

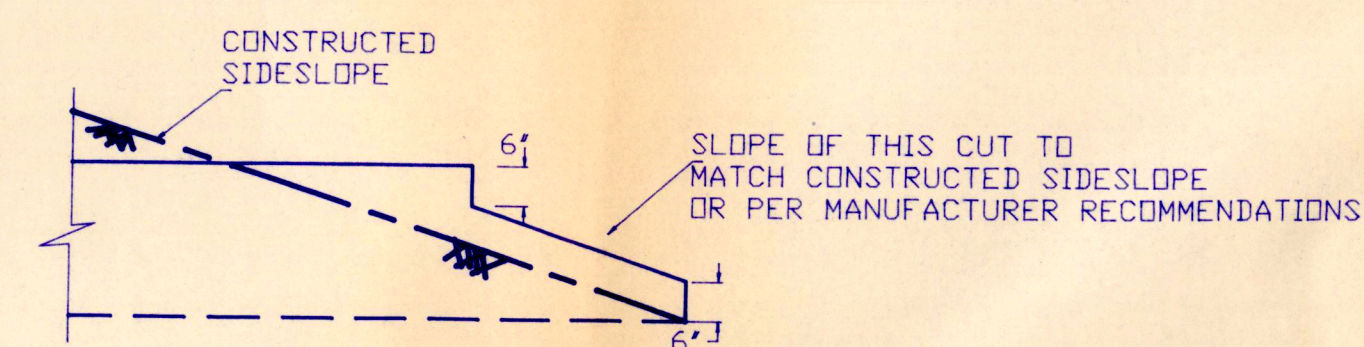
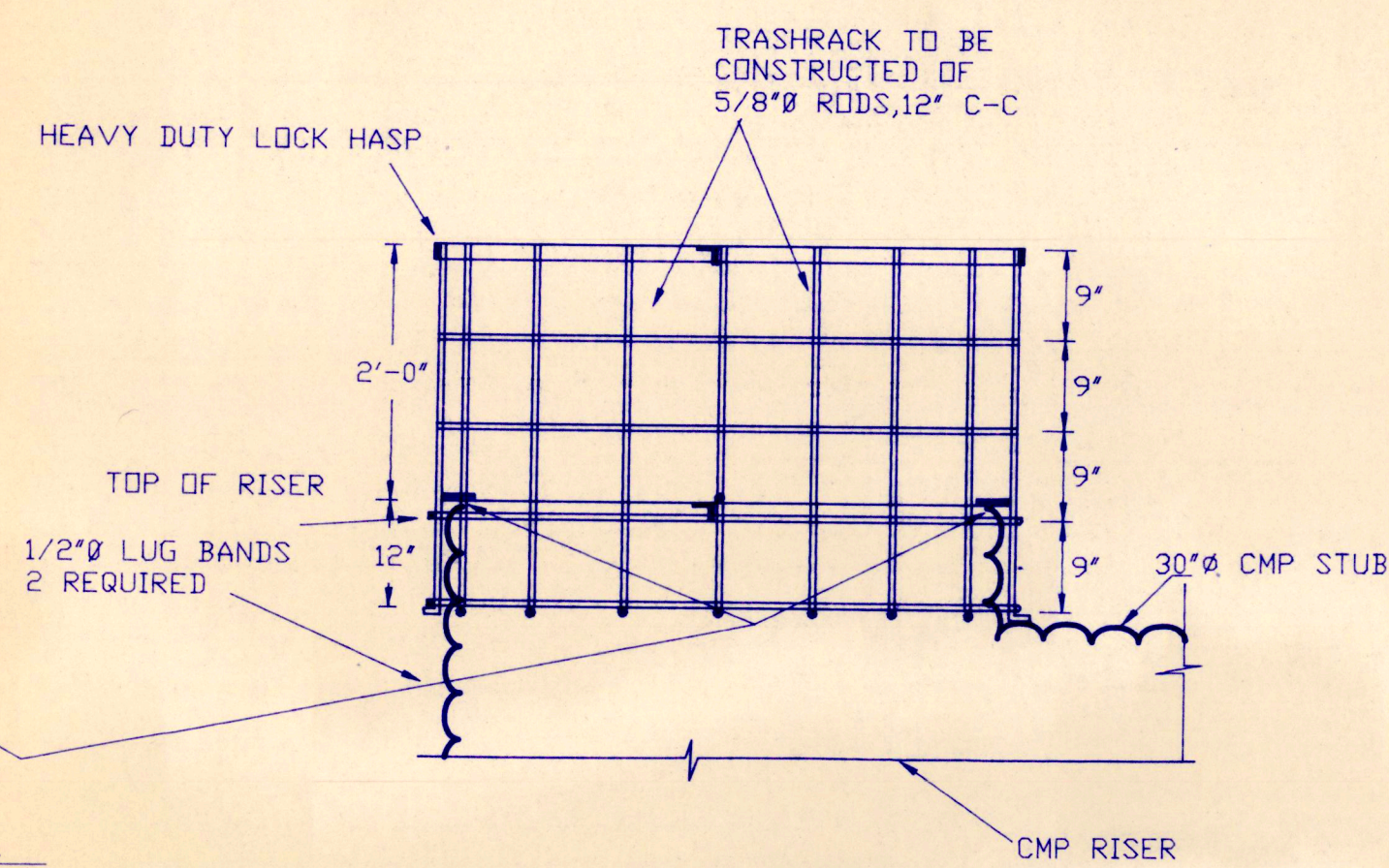


SCALE 1' = 5'



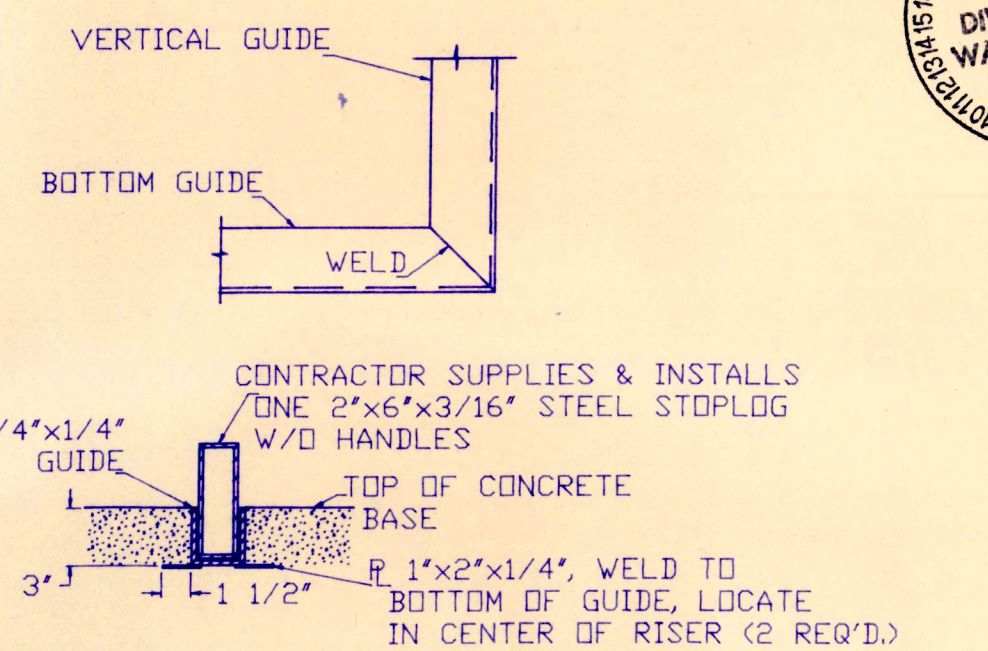
TRASHRACK DETAIL

NOT TO SCALE



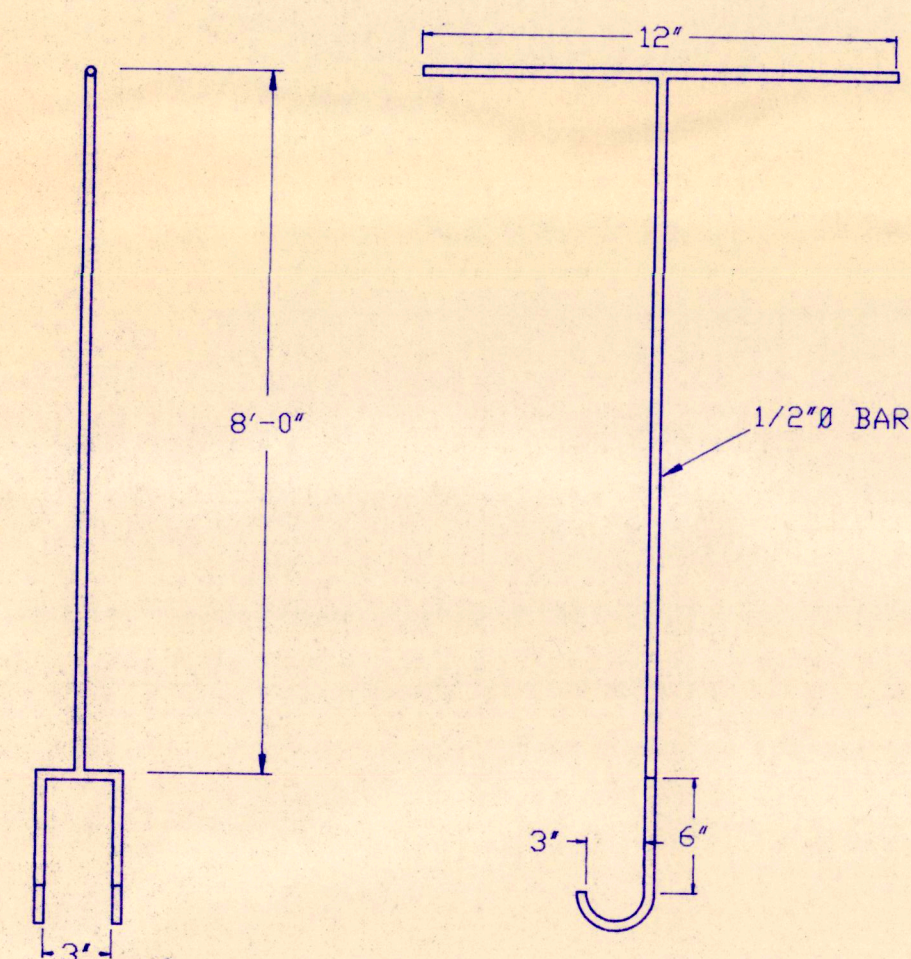
STEP BEVEL DETAIL

NOT TO SCALE



HORIZONTAL STOPLOG GUIDE DETAIL

NOT TO SCALE



STOPLOG LIFTING HOOK DETAIL

NOT TO SCALE

SUPPLIER'S NOTES

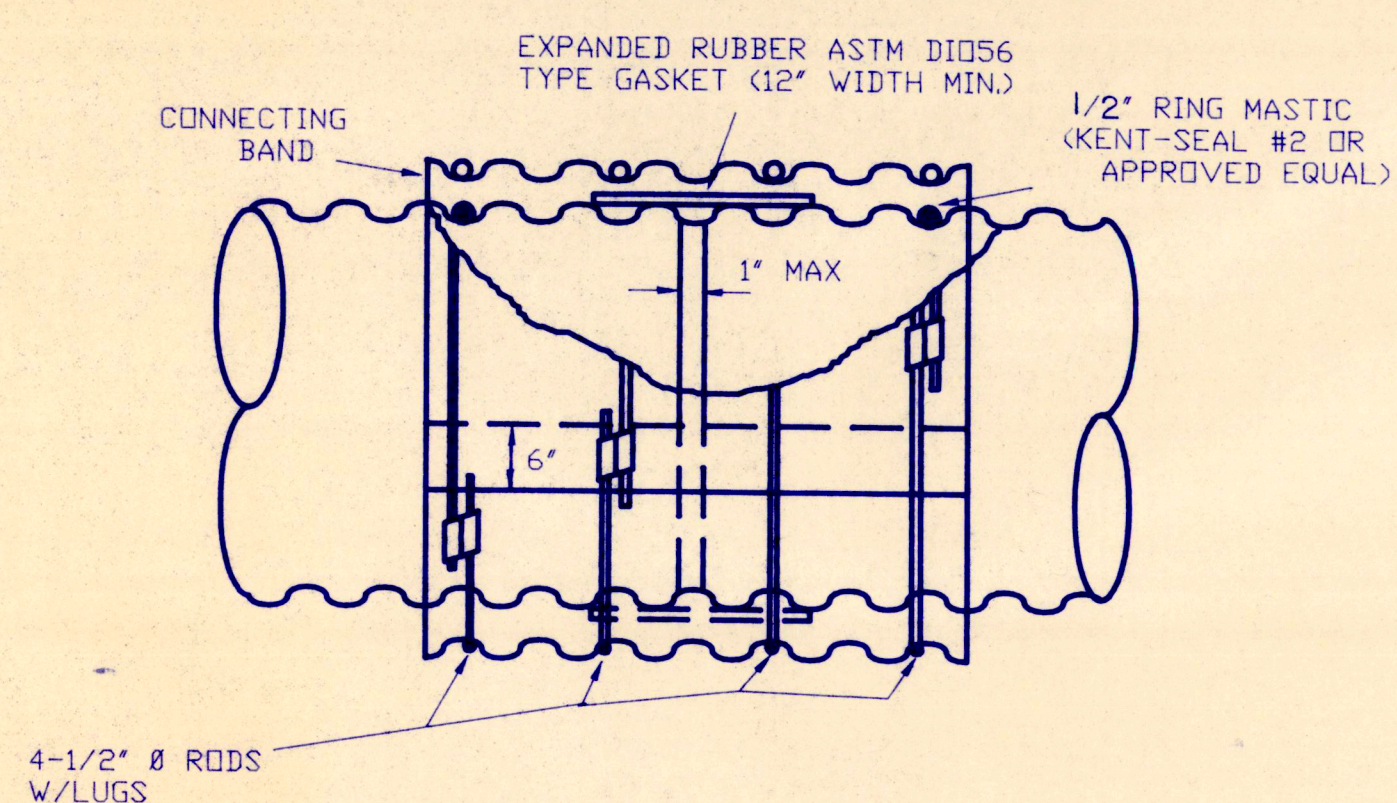
- 1) IF ANNULAR PIPE IS USED, SUPPLY 2\"/>

- 2) IF HELICAL PIPE WITH THE 4 END CORRUGATIONS REROLLED TO ANNULAR IS SUPPLIED, SUPPLY 21\"/>

- 3) SEE SPECIFICATION 207.3

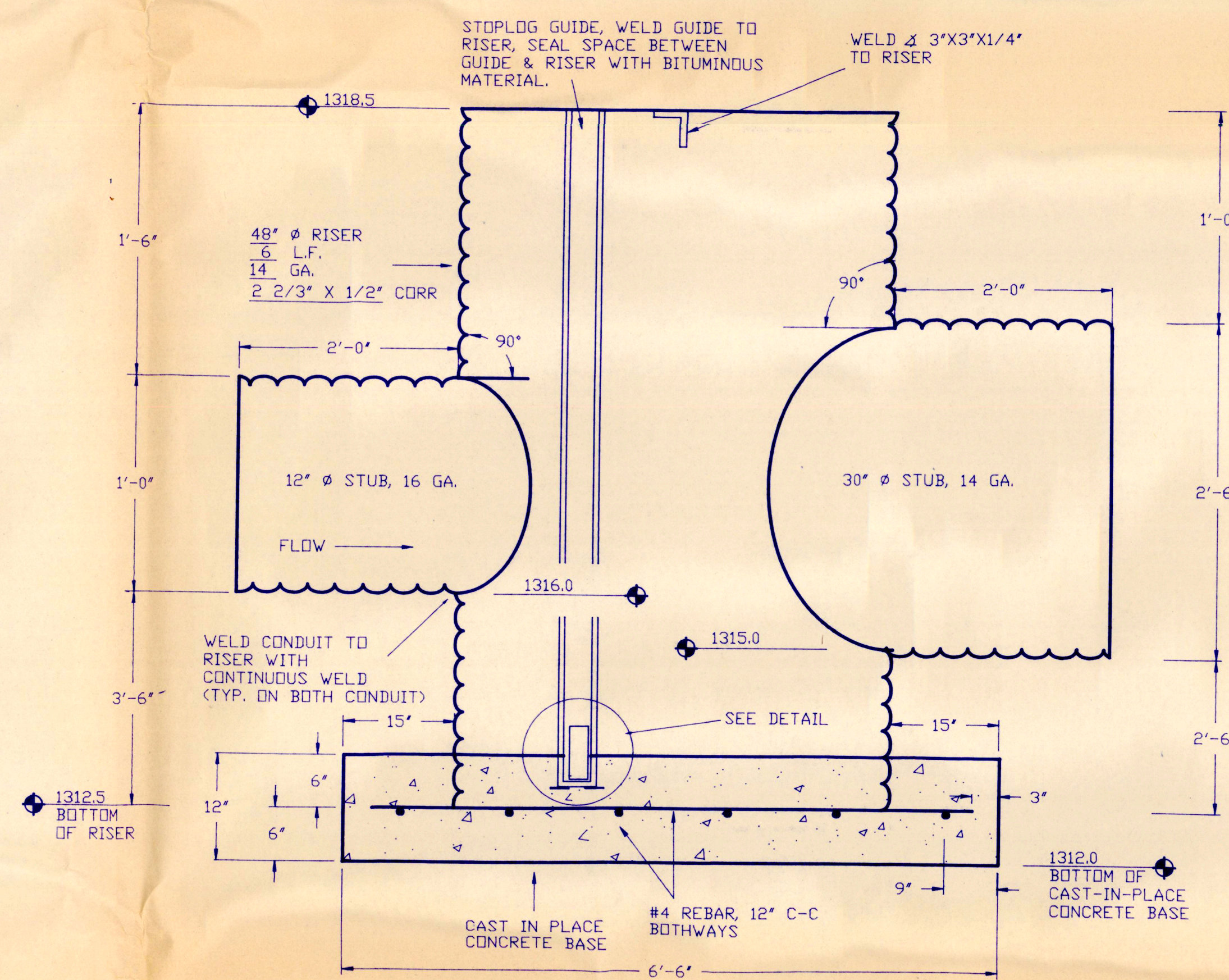
CONTRACTOR'S NOTES

- 1) 6\"/>
- 2) AFTER BANDS HAVE BEEN TIGHTENED, A COAT OF TAR SHALL BE PLACED AROUND THE PIPE AT THE ENDS OF THE CONNECTING BANDS
- 3) FOR ACCEPTABLE GASKET ALTERNATIVES SEE D.U. SPECIFICATION 207

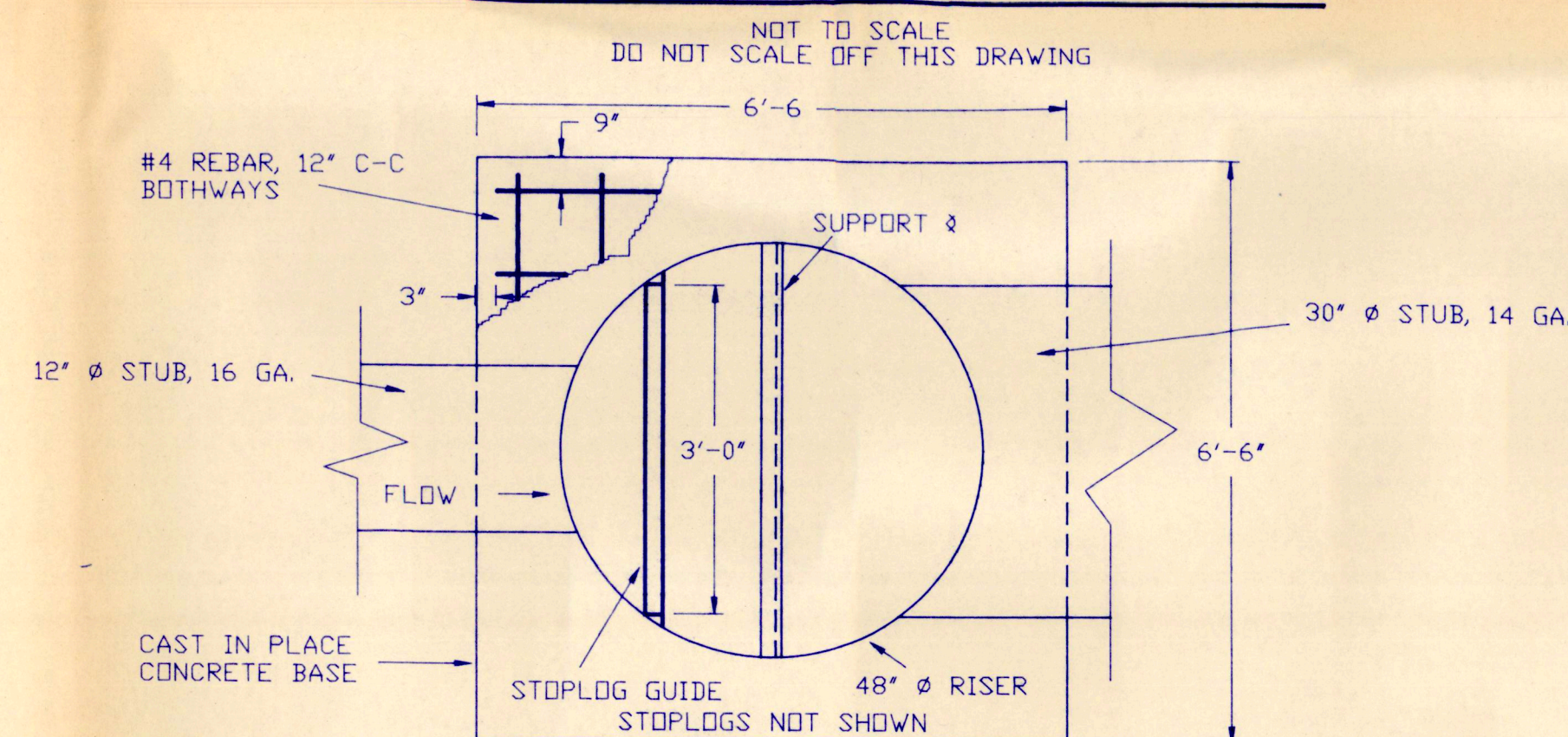


CONNECTING BAND DETAIL

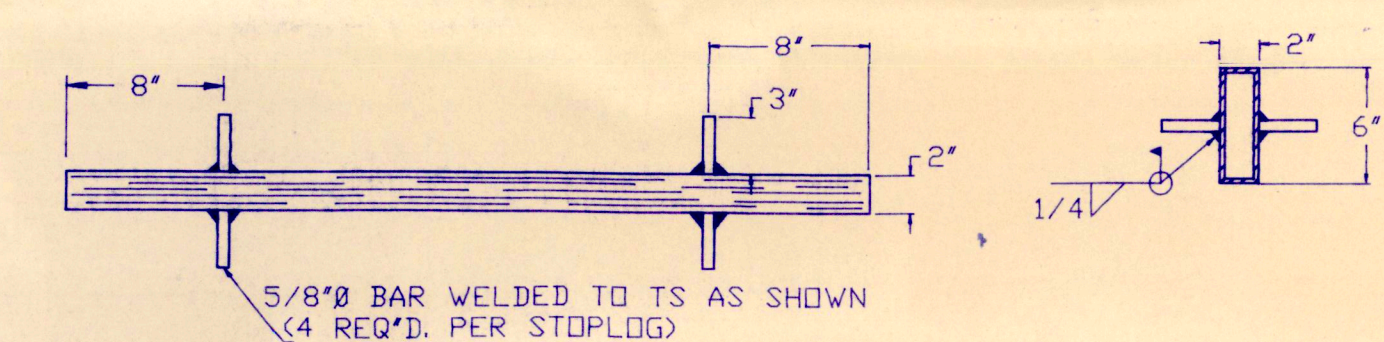
NOT TO SCALE



CONTROL STRUCTURE DETAIL

NOT TO SCALE
DO NOT SCALE OFF THIS DRAWING

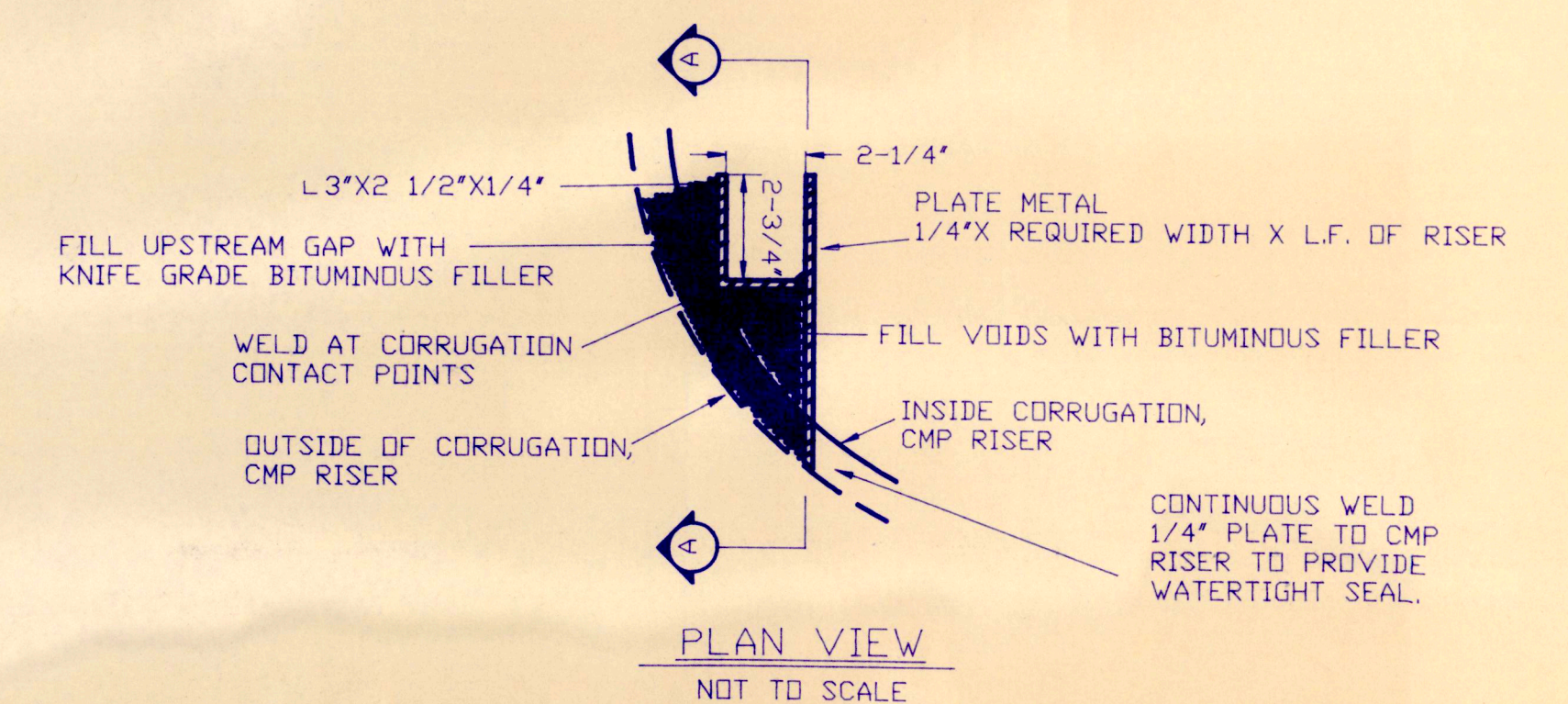
CONTROL STRUCTURE PLAN VIEW

NOT TO SCALE
DO NOT SCALE OFF THIS DRAWING

NOTE: ALL STEEL STOPLOGS, EXCEPT BOTTOM ONE, FURNISHED BY DUCKS UNLIMITED. CONTRACTOR SHALL SUPPLY & WELD ON PEGS, PLUS DELIVER LOGS TO SITE. DO NOT WELD PEGS ON BOTTOM STOPLOG

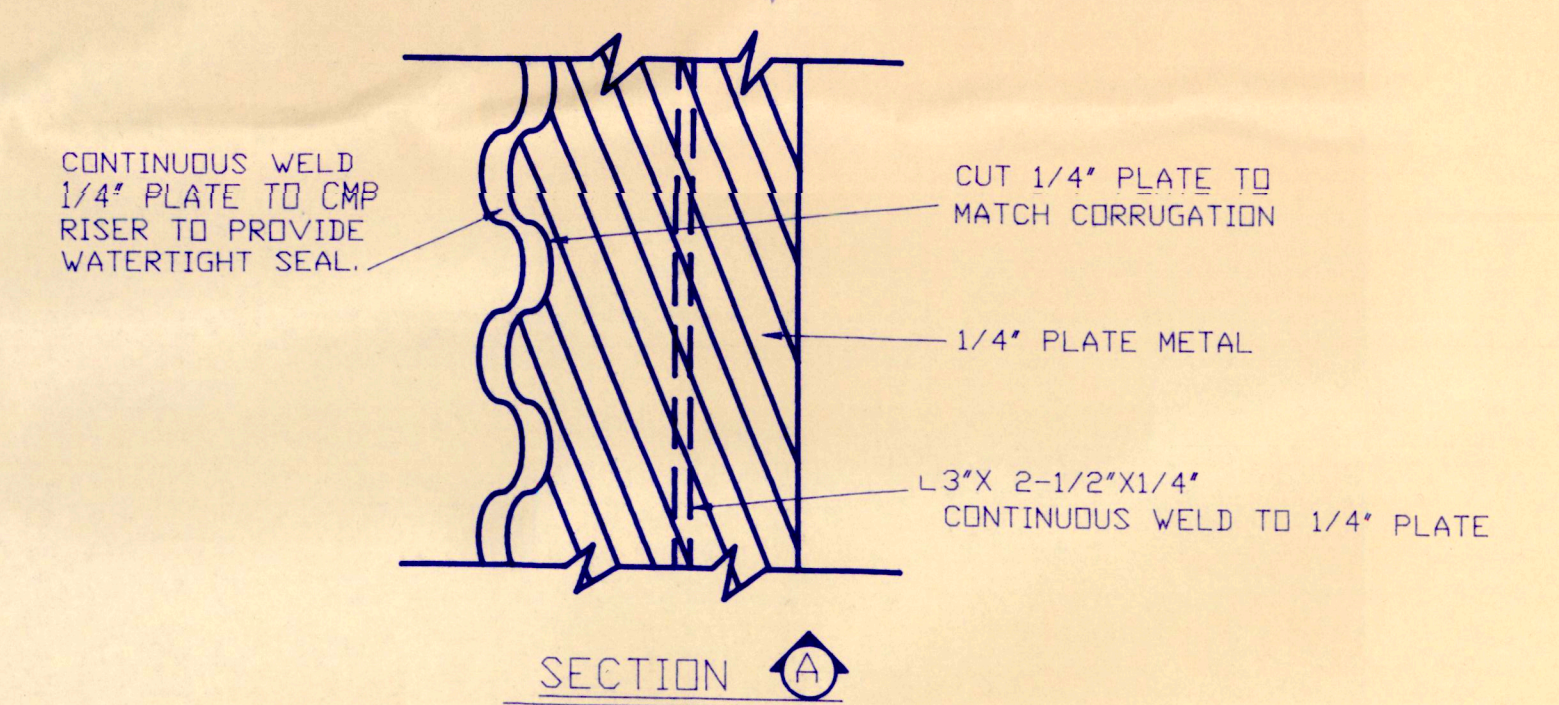
STEEL STOPLOG DETAIL

NOT TO SCALE



PLAN VIEW

NOT TO SCALE



SECTION A

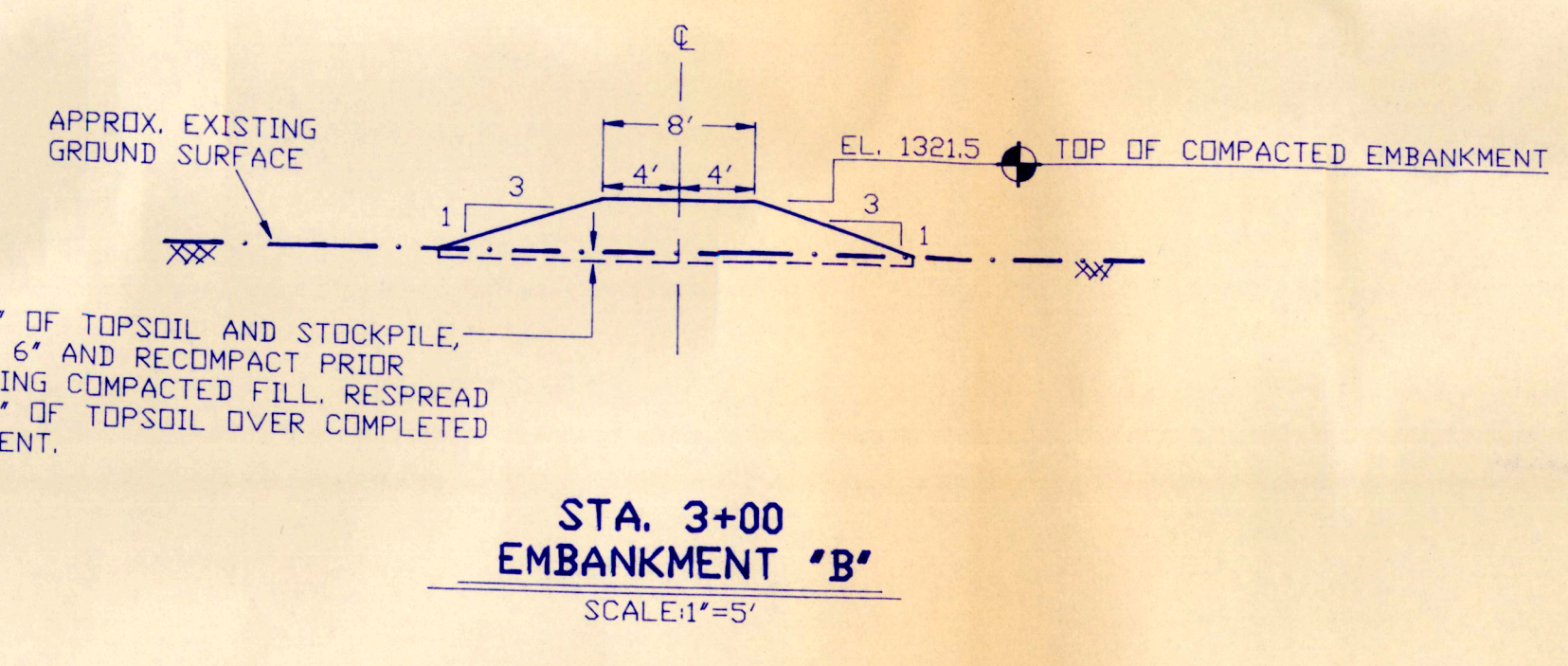
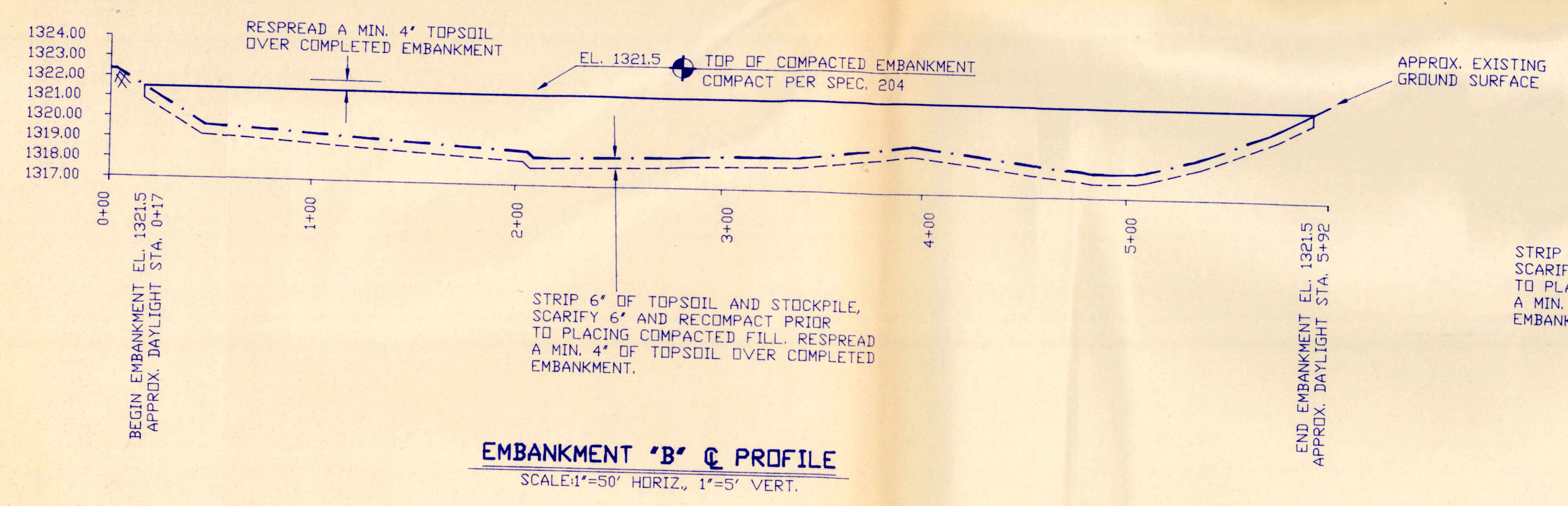
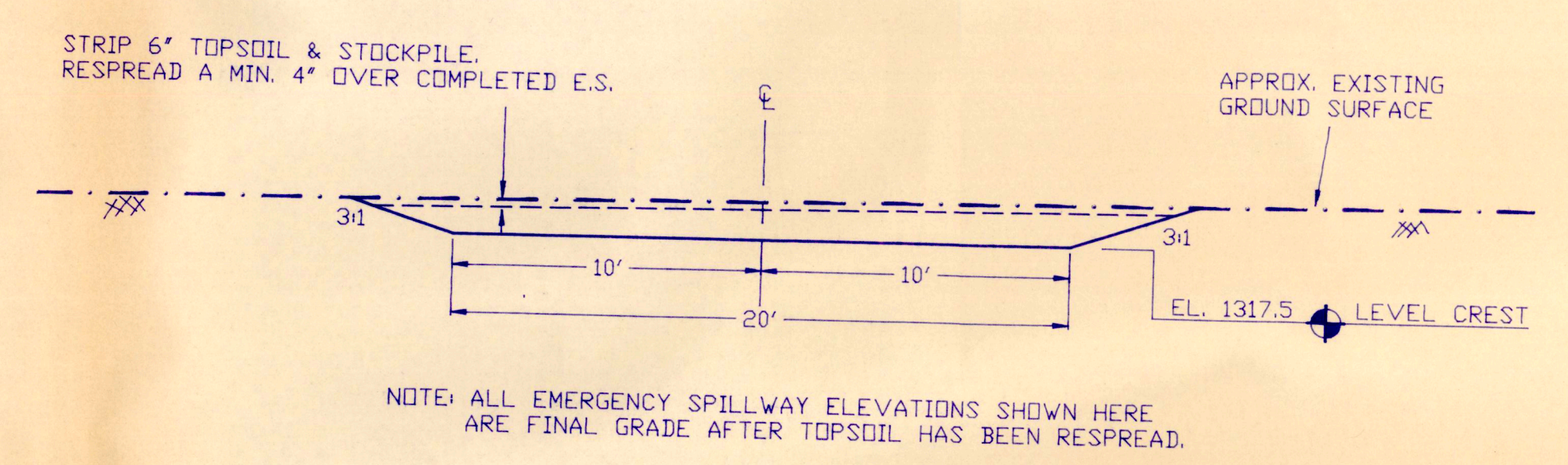
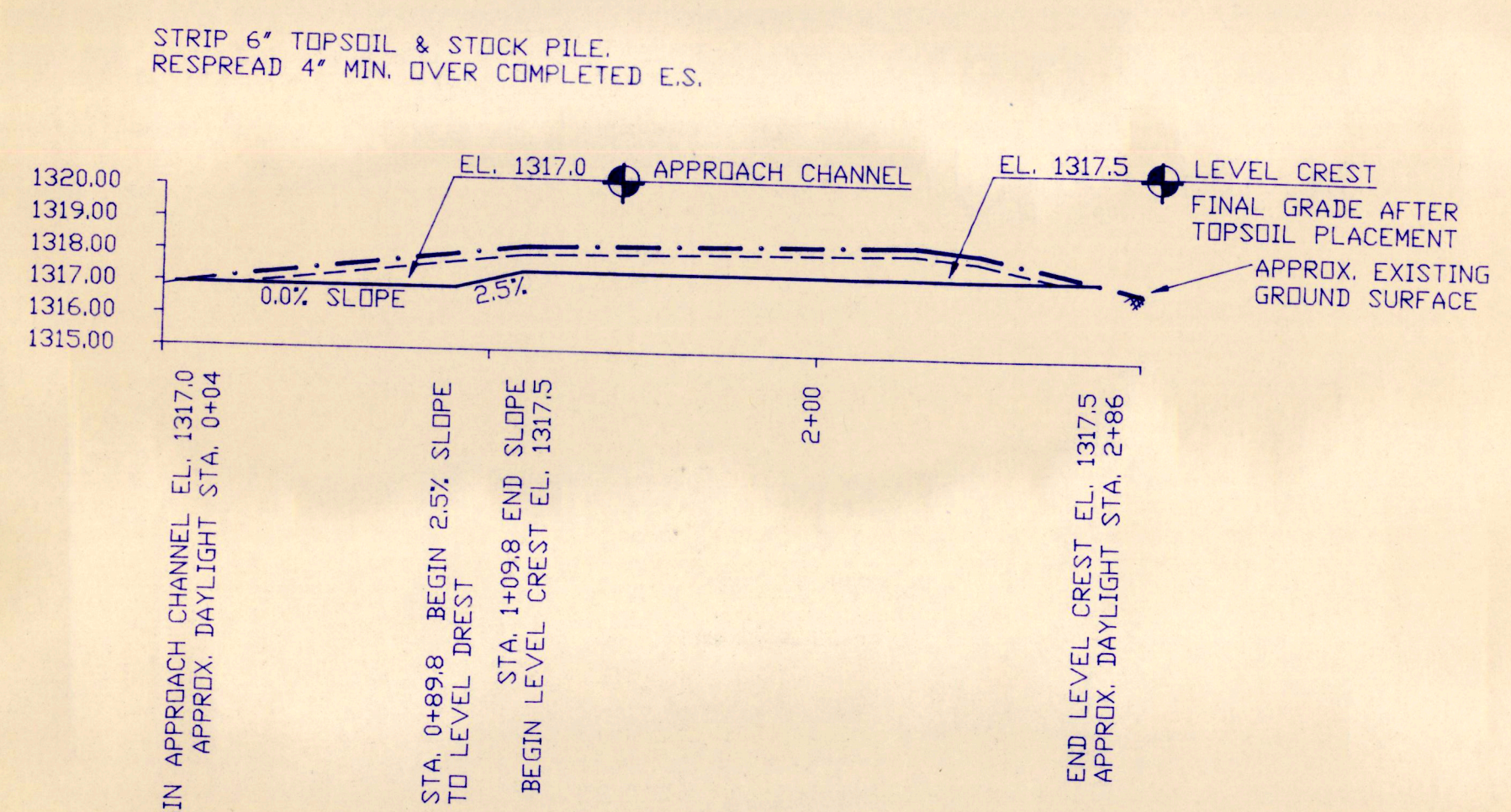
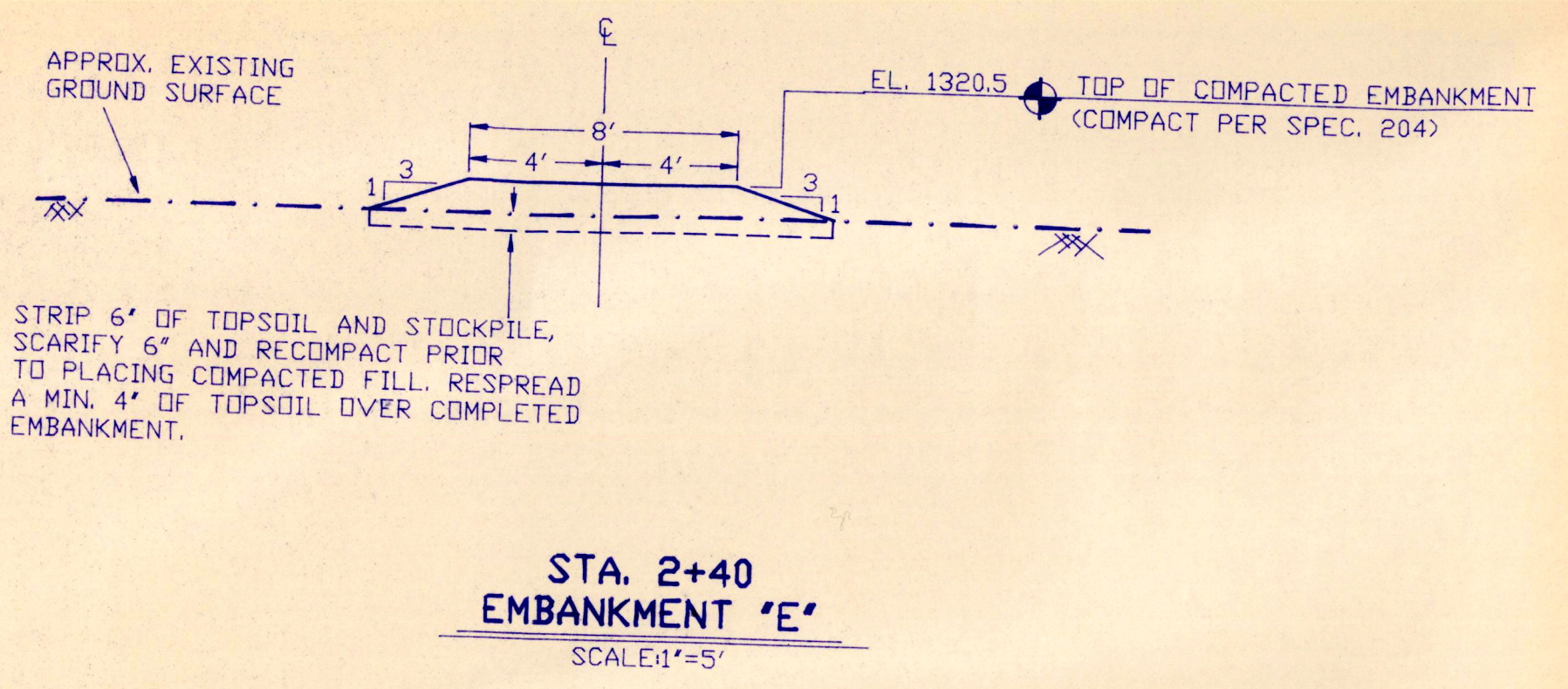
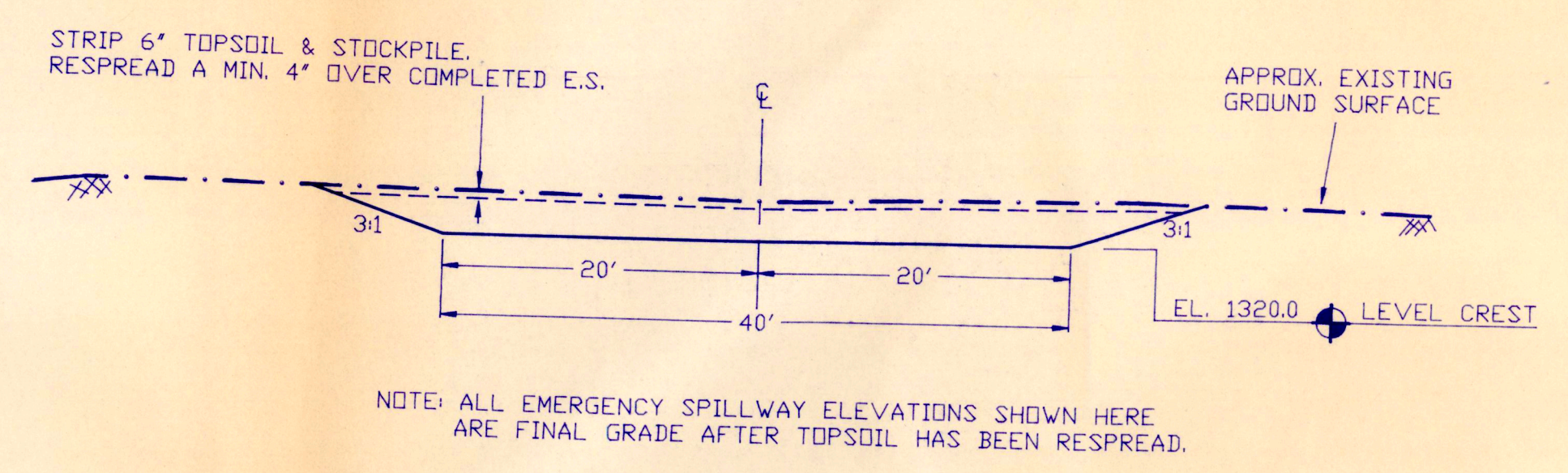
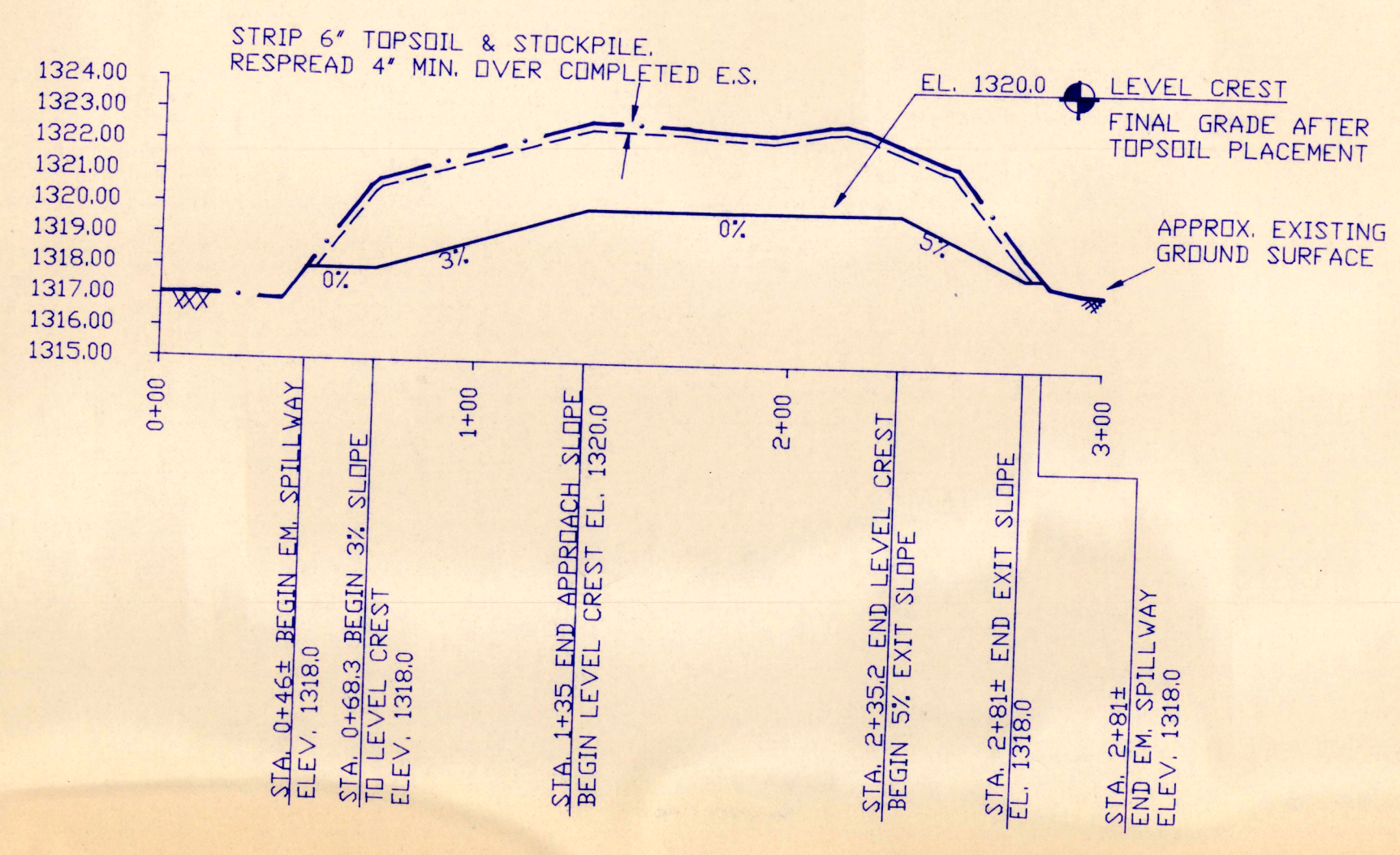
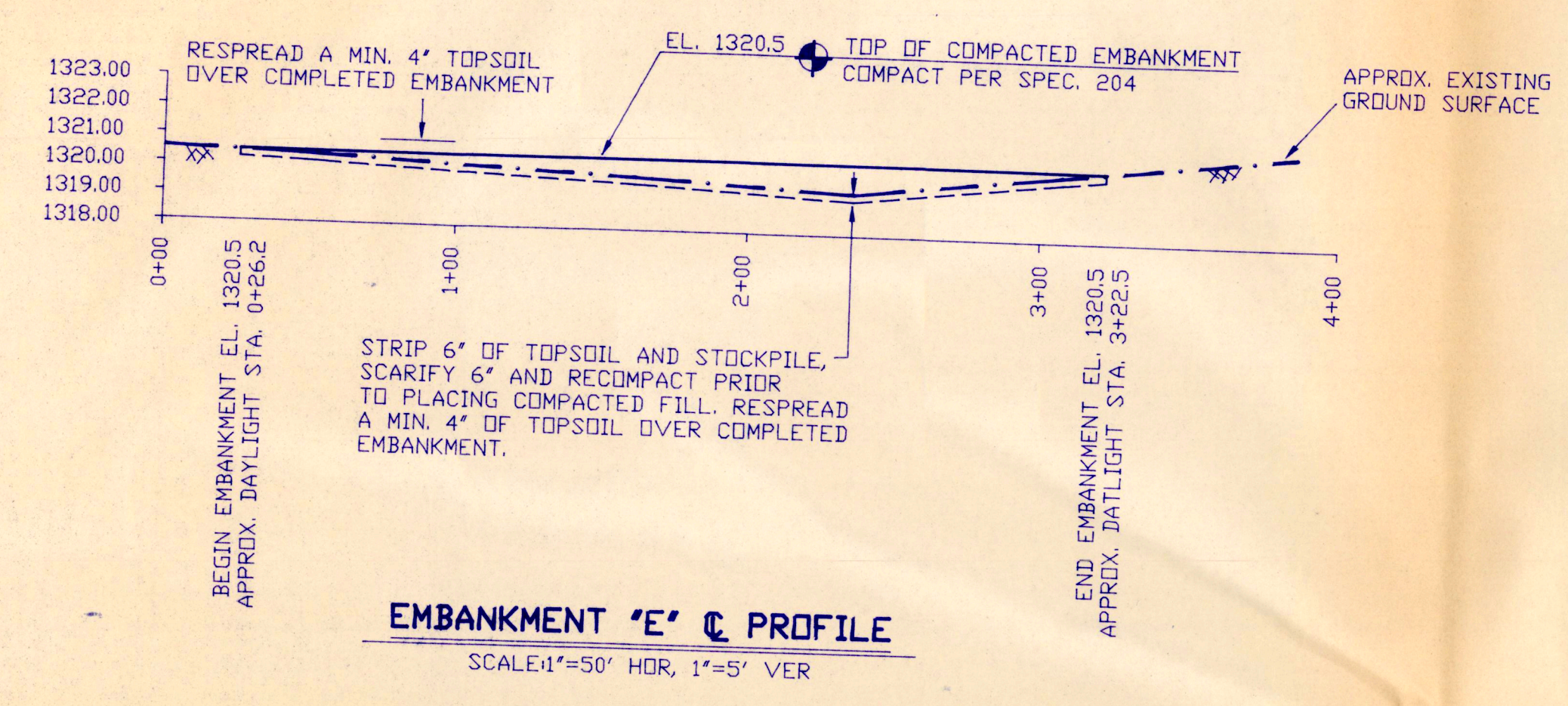
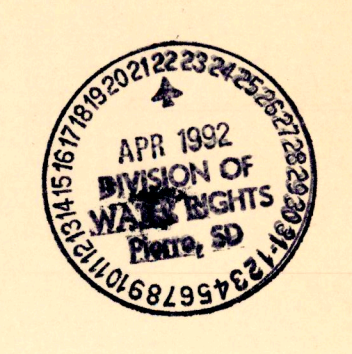
NOT TO SCALE

STOPLOG GUIDE DETAIL

NOT TO SCALE

DUCKS UNLIMITED INC. GREAT PLAINS REGIONAL OFFICE	PROJECT NO. SD-128-1	DESIGNED BY D.J.L.
	DEAN STRAND WETLAND	DRAWN BY B.TE. CADD
DATE 3-5-92	SHEET NO. 5 OF 11	SURVEYED BY
	APPROVED BY	CHECKED BY
		APPROVED BY

5656-3



DUCKS UNLIMITED INC. GREAT PLAINS REGIONAL OFFICE	PROJECT NO. SD-128-1	DESIGNED BY: D.J.L.
	DEAN STRAND WETLAND	DRAWN BY: J.E.
DATE: 4-16-92	SHEET NO: 6 OF 11	CHECKED BY:
APPROVED BY:		APPROVED BY:

5656-3



NOTE:

1. CONTRACTOR IS RESPONSIBLE TO HAVE UNDERGROUND UTILITIES MARKED TO AVOID DAMAGE. ANY DAMAGE TO SUCH UTILITIES SHALL BE THE CONTRACTOR'S RESPONSIBILITY & REPAIR COSTS SHALL BE ASSUMED BY CONTRACTOR.
2. CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVAL, SALVAGE & REINSTALLING ANY FENCE WITHIN THE CONSTRUCTION AREA.

CONSTRUCTION LAYOUT INFORMATION

EMBANKMENT 'C'

STA. 0+00 N 5125 E 5405

PC STA. 9+91.2 N 5077.4011 E 6395.0577

RADIUS POINT N 5029.8514 E 6392.7716

PT STA. 10+68.315 N 5025.2356 E 6440.1519

STA. 17+00 N 4396.5 6378.9

CURVE DATA

$\Delta = 92^\circ 48' 42''$

R = 47.60'

T = 50.00'

L = 77.01'

BEGIN EMBANKMENT EL. 1317.5

APPROX. DAYLIGHT STA. 0+08

STA. 9+91.2 BEGIN TRANSITION FROM TOP EL. 1317.5 TO EL. 1317.0

BEGIN TRANSITION FROM 3:1 TO 10:1 SIDESLOPE ON LEFT OF C ONLY

STA. 10+68.3 END TRANSITIONS, BEGIN TOP EL. 1317.0,

BEGIN 10:1 SIDESLOPE LEFT OF C

STA. 14+70 BEGIN 10:1 TRANSITION FROM TOP EL. 1317.0 TO TOP EL. 1319.0

END 10:1 SIDESLOPE LEFT OF C, BEGIN VARIABLE SIDESLOPE LEFT OF C

STA. 14+90 END TRANSITION, TOP EL. 1319.0, BEGIN 5:1 SIDESLOPE LEFT OF C

STA. 15+00 INSTALL WATER CONTROL STRUCTURE, SEE SHEET X FOR DETAILS

STA. 15+10 BEGIN 10:1 TRANSITION FROM TOP EL. 1319.0 TO TOP EL. 1317.0

END 5:1 SIDESLOPE LEFT OF C, BEGIN VARIABLE SIDESLOPE LEFT OF C

STA. 15+30 END TRANSITION, TOP EL. 1317.0,

RESUME 10:1 SIDESLOPE LEFT OF C

END EMBANKMENT EL. 1317.0

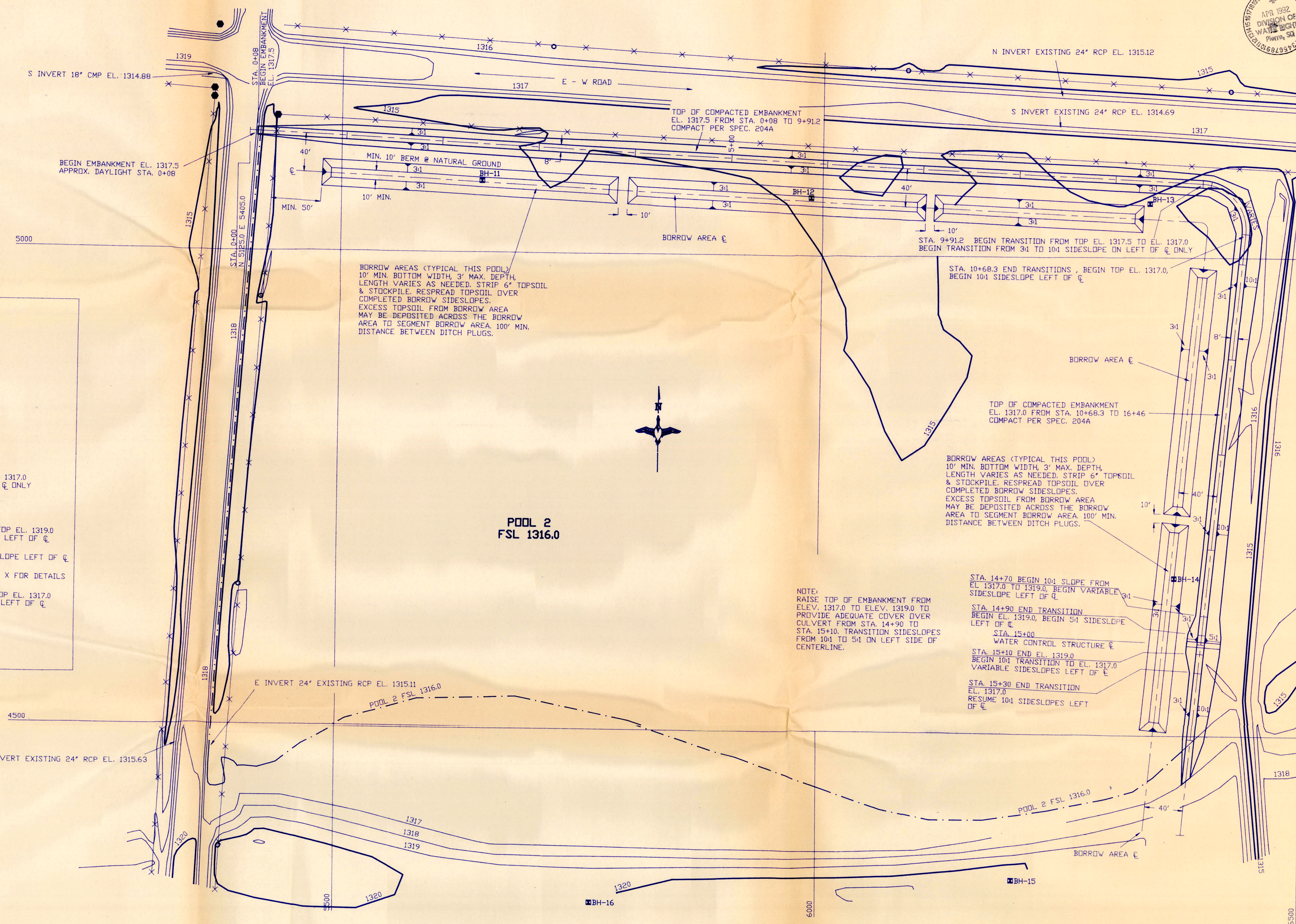
APPROX. DAYLIGHT STA. 16+46

ESTIMATED QUANTITIES

	SITE PREPARATION	EMBANKMENT
EMBANKMENT 'C'	682 CY	3046 CY *
* INCLUDES 15% FOR SHRINKAGE		

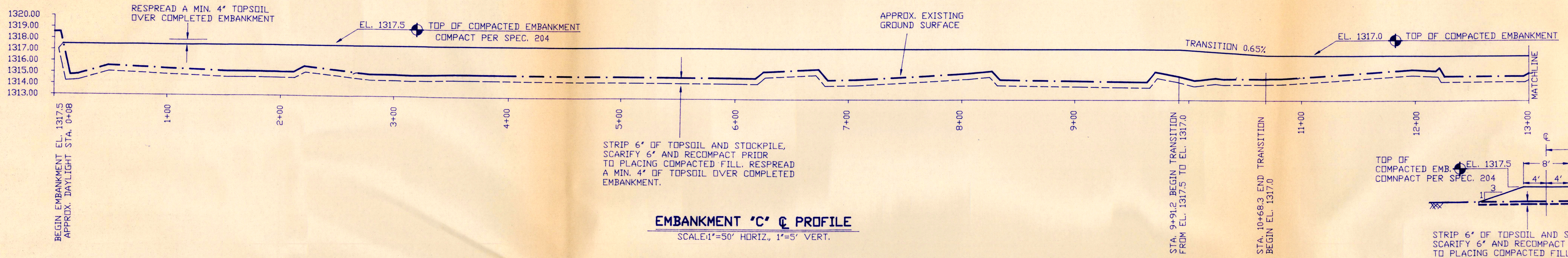
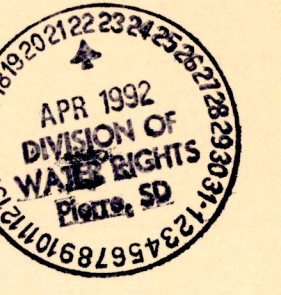
LEGEND

- X—X— = FENCE
- = POWER POLE
- = UG TELE. BOX OR UG FIBER OPTICS BOX
- △ = DU CONTROL POINT, #5 REBAR CAPPED & STAMPED
- BH= APPROX. SOIL BORING LOCATIONS
SEE SHEET 11 OF 11 FOR SOILS INFORMATION

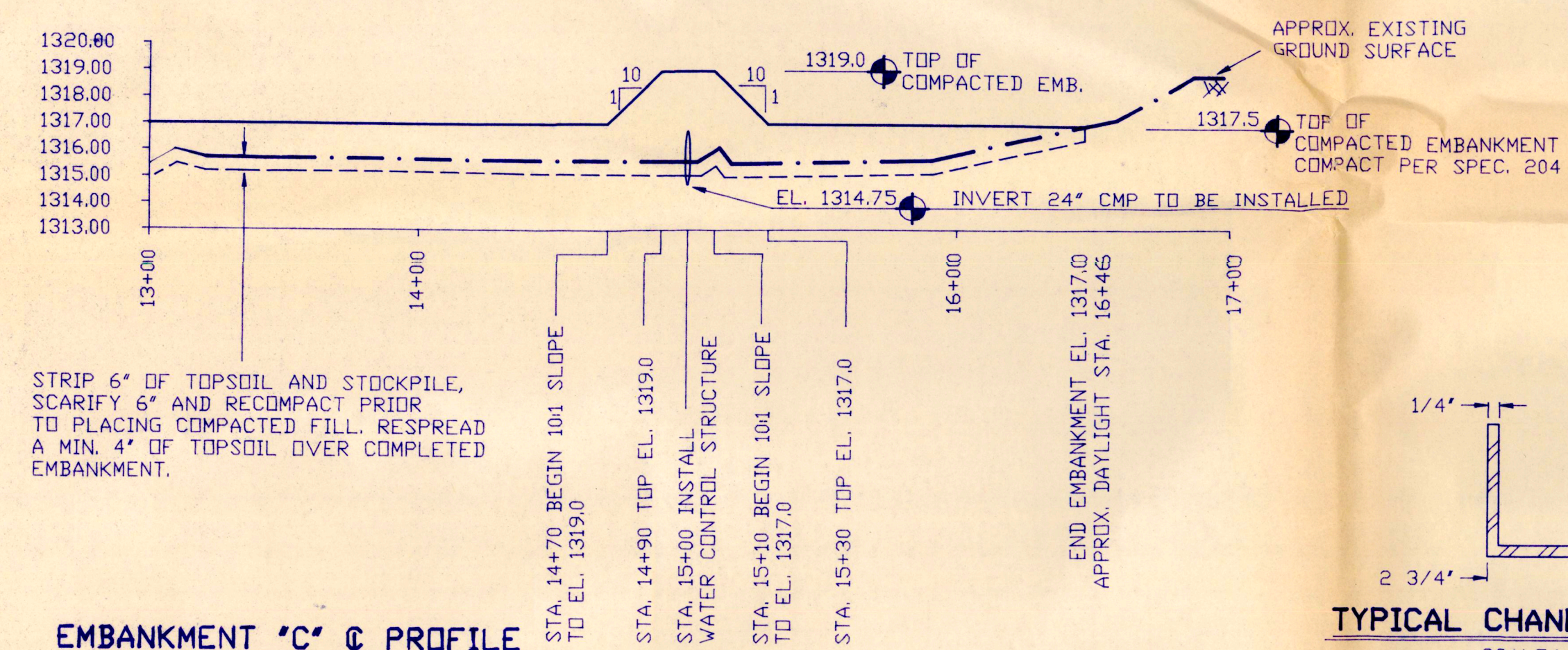


EMBANKMENT 'C' PLAN VIEW
SCALE: 1"=50'

DUCKS UNLIMITED INC. GREAT PLAINS REGIONAL OFFICE	PROJECT NO. SD-128-1	DESIGNED BY: D.J.L.
	DEAN STRAND WETLAND	DRAWN BY: T.E. CADD
	EMBANKMENT C SITE TOPOGRAPHY	SURVEYED BY:
DATE: 3-5-92	SHEET NO: 7 OF 11	CHECKED BY:
	APPROVED BY:	APPROVED BY:

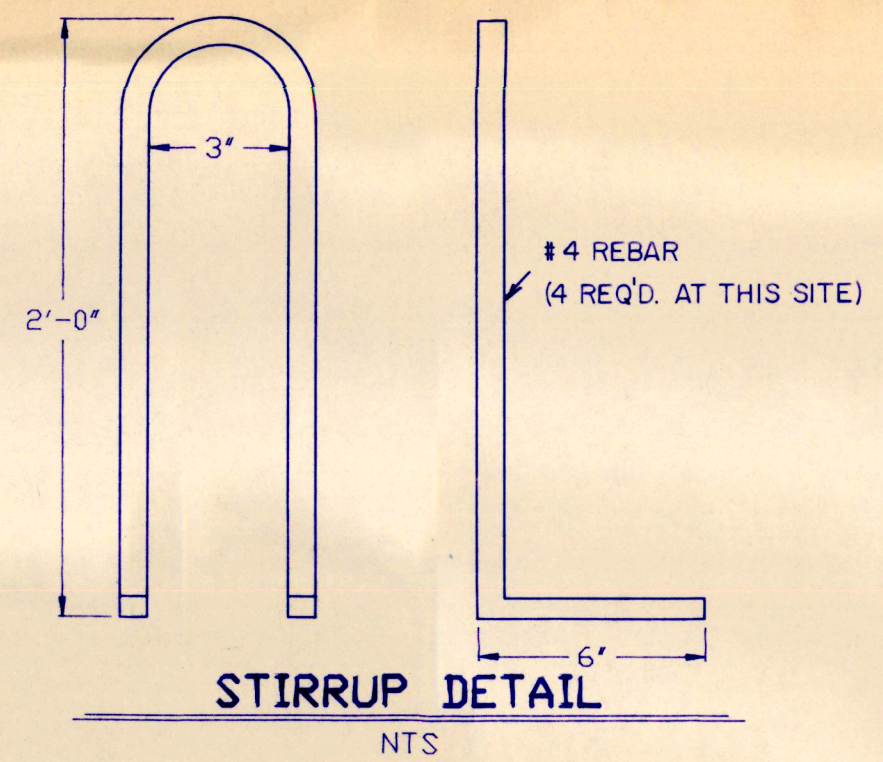


EMBANKMENT 'C' @ PROFILE
SCALE 1"=50' HORIZ, 1"=5' VERT.

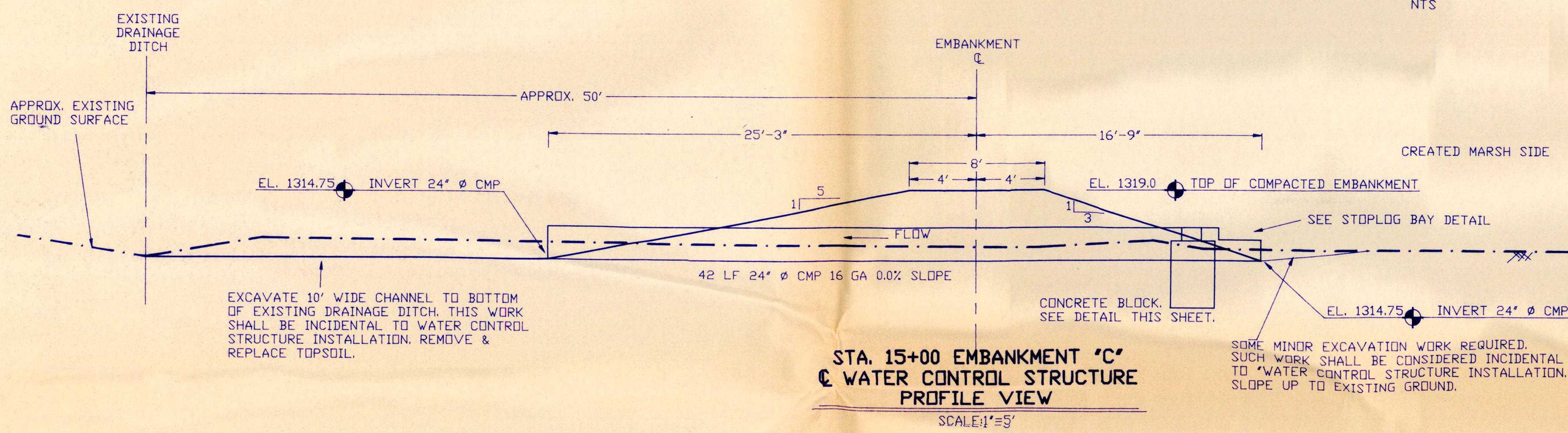


EMBANKMENT 'C' @ PROFILE
SCALE 1"=50' HORIZ, 1"=5' VERT.

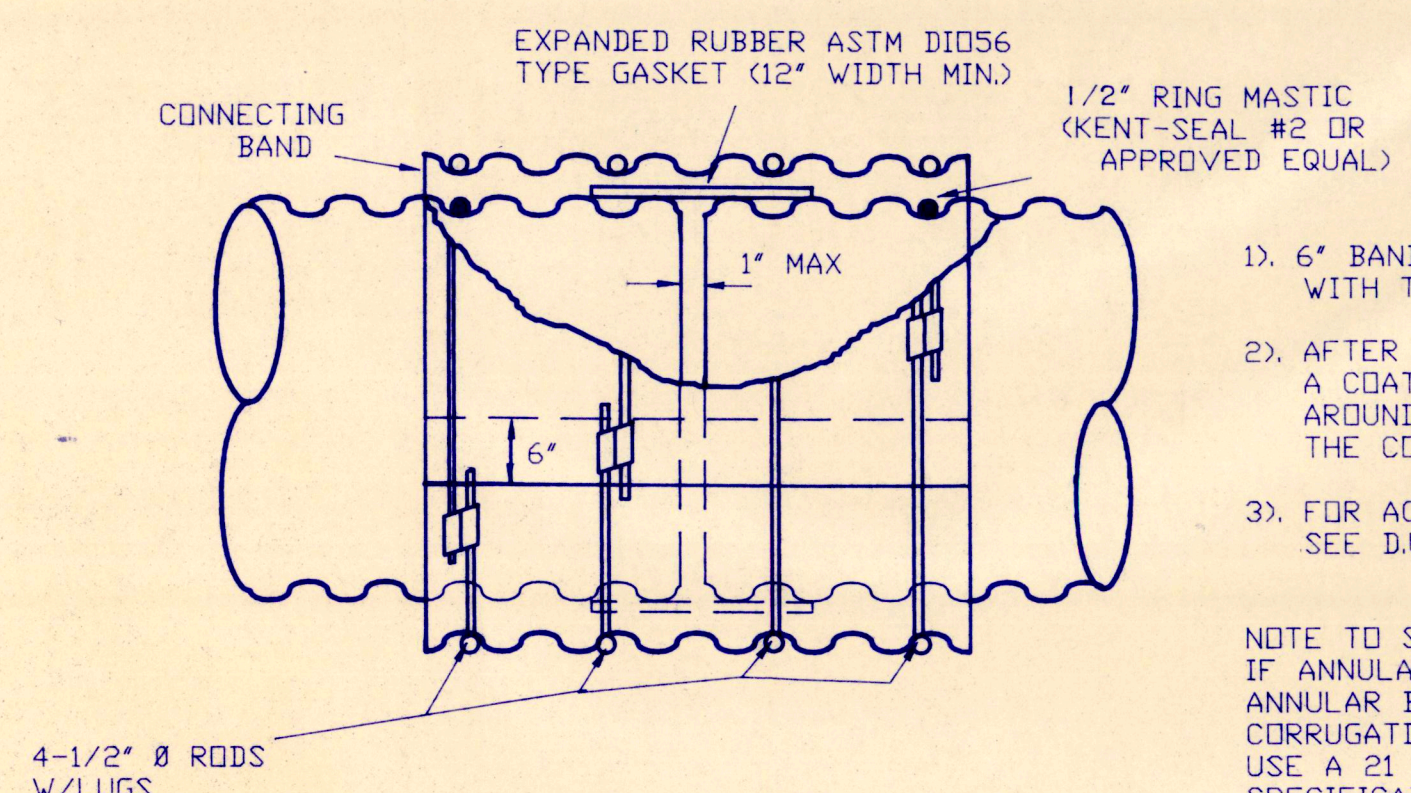
TYPICAL CHANNEL SECTION
SCALE 1/4"=1'



STIRRUP DETAIL
NTS

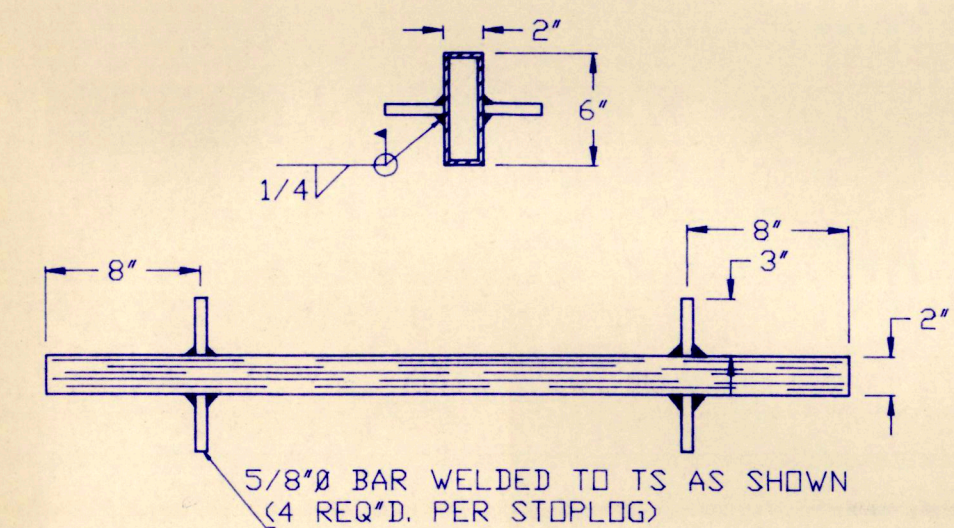


STA. 15+00 EMBANKMENT 'C' @ WATER CONTROL STRUCTURE PROFILE VIEW
SCALE 1"=5'

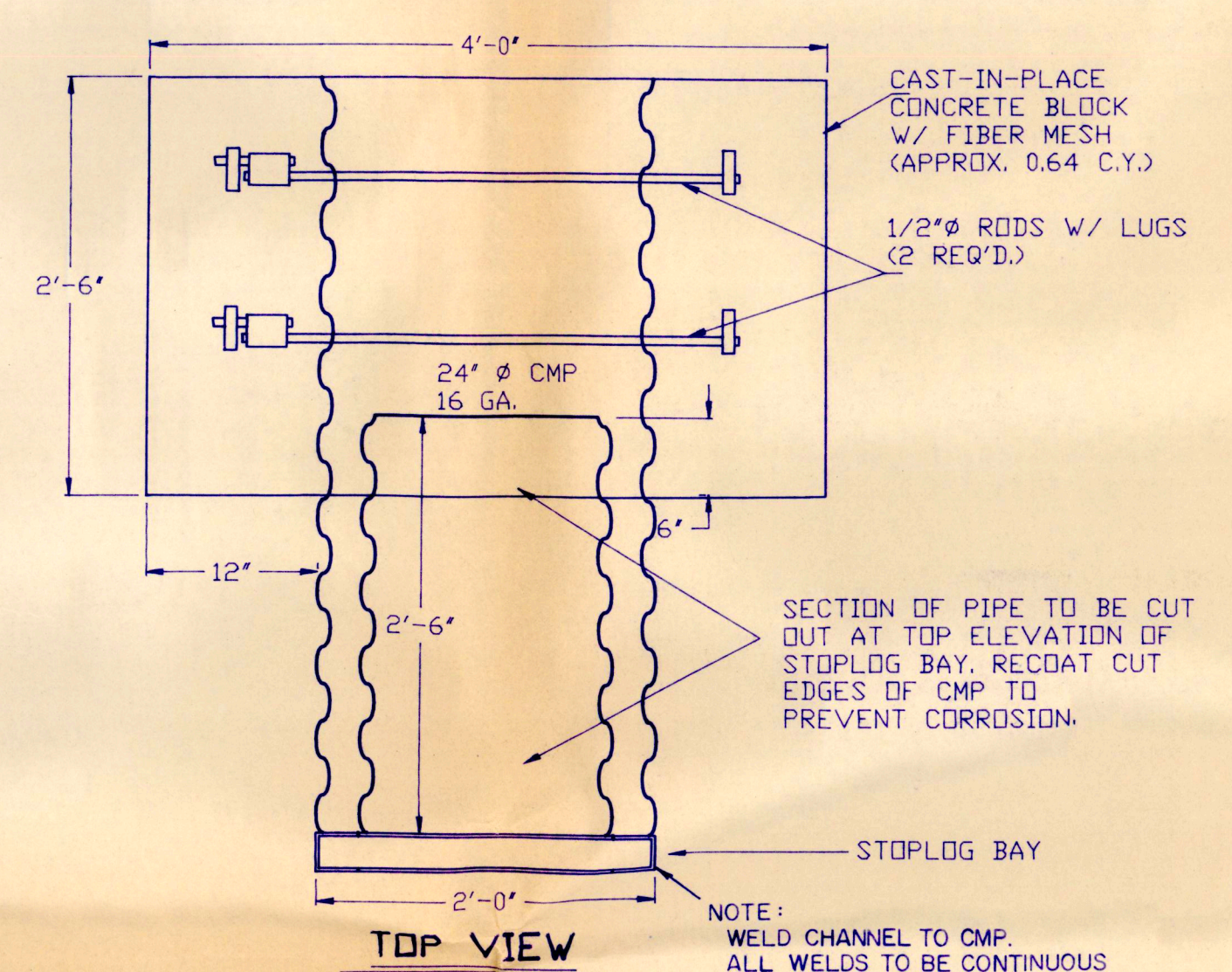


CONNECTING BAND DETAIL
NOT TO SCALE

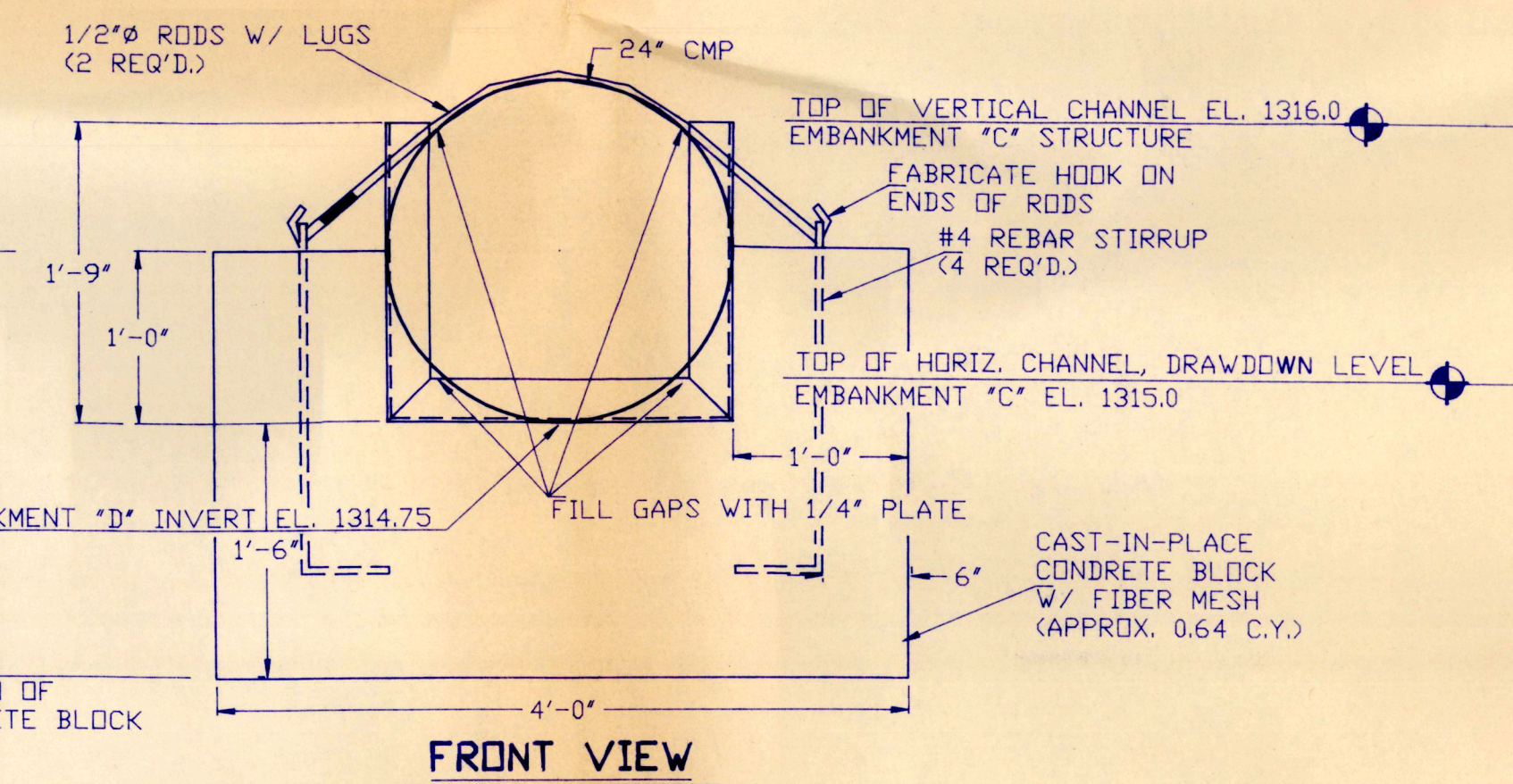
- NOTES**
- 1). 6" BAND OVERLAP SHALL BE COATED WITH TAR, PRIOR TO SECURING RODS
 - 2). AFTER BANDS HAVE BEEN TIGHTENED, A COAT OF TAR SHALL BE PLACED AROUND THE PIPE AT THE ENDS OF THE CONNECTING BANDS
 - 3). FOR ACCEPTABLE BANDING ALTERNATIVES SEE D.U. SPECIFICATION 207
- NOTE TO SUPPLIERS:**
IF ANNULAR PIPE IS USED, USE A 2 FT. WIDE ANNULAR BAND. IF HELICAL PIPE WITH 4 CORRUGATIONS ROLLED TO ANNULAR IS USED, USE A 21 INCH WIDE ANNULAR BAND. SEE SPECIFICATION 207.2.



STEEL STOPLOG DETAIL
NTS

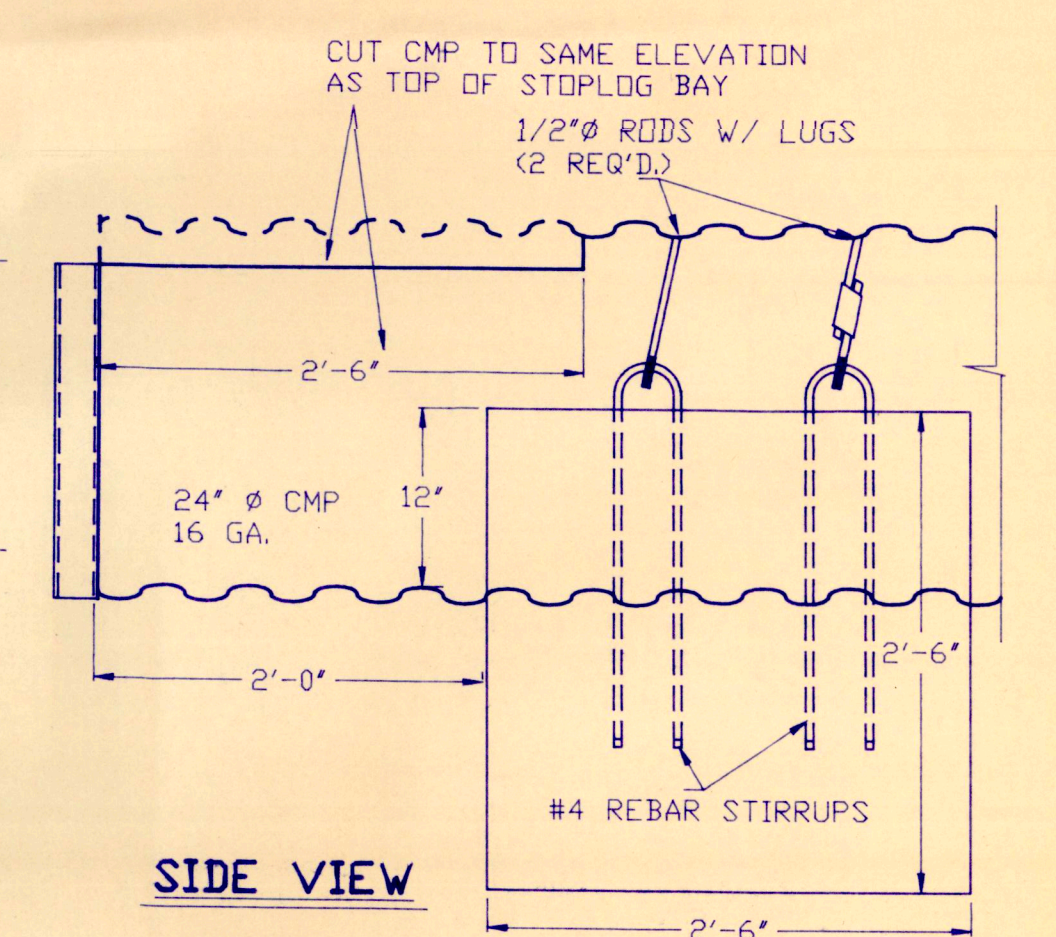


TOP VIEW



FRONT VIEW

STOPLOG BAY DETAILS
SCALE 1"=1'



SIDE VIEW

 GREAT PLAINS REGIONAL OFFICE DATE: 4-16-92	PROJECT NO: SD-128-1 DEAN STRAND WETLAND EMBANKMENT C PROFILES	DESIGNED BY: DJL DRAWN BY: S TE SURVEYED BY: CHECKED BY: APPROVED BY:
	SHEET NO: 8 OF 11 APPROVED BY:	APPROVED BY:

5650-3

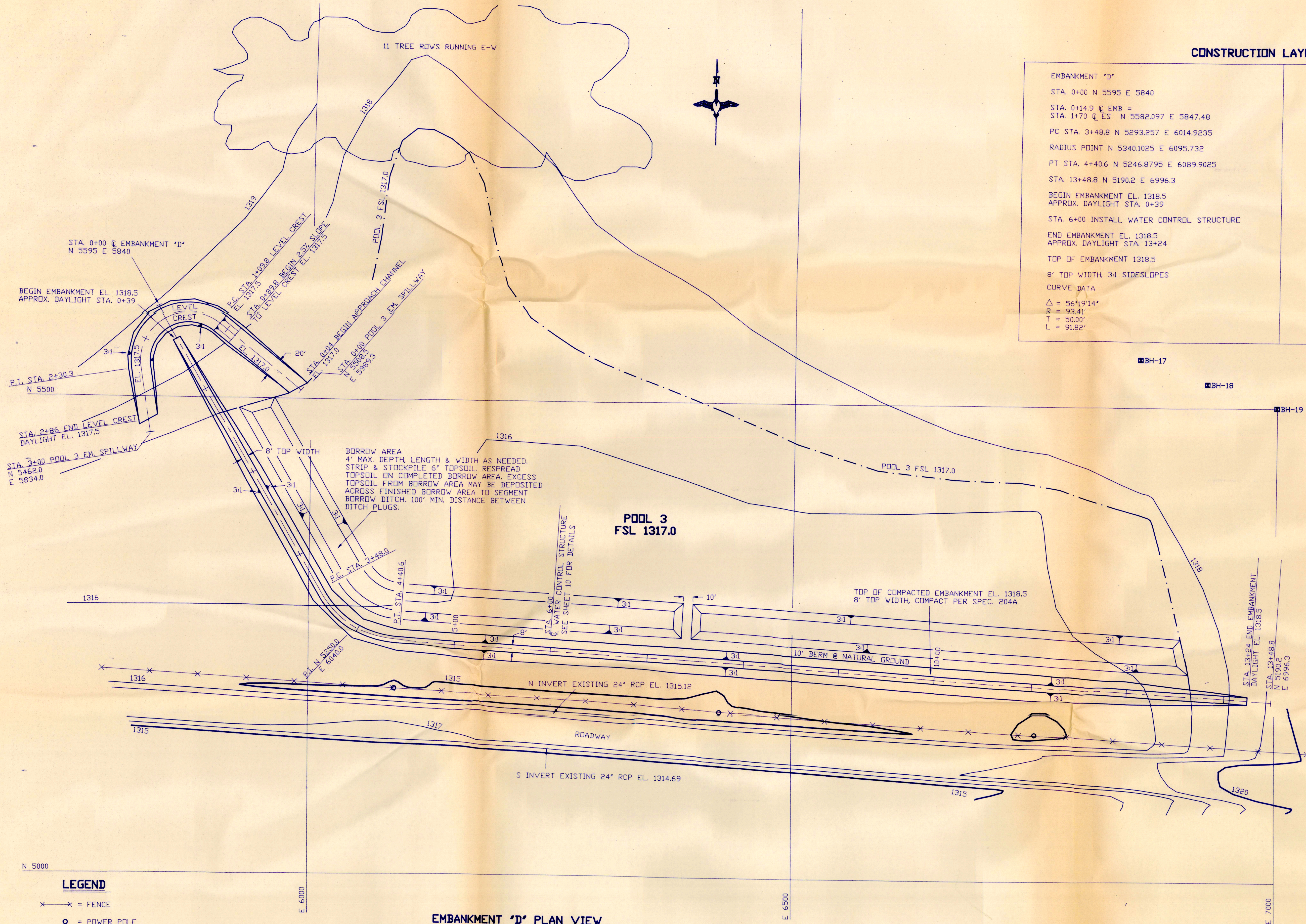


CONSTRUCTION LAYOUT INFORMATION

EMBANKMENT 'D' STA. 0+00 N 5595 E 5840 STA. 0+14.9 @ EMB = STA. 1+70 Q. ES. N 5582.097 E 5847.48 PC STA. 3+48.8 N 5293.257 E 6014.9235 RADIUS POINT N 5340.1025 E 6095.732 PT STA. 4+40.6 N 5246.8795 E 6089.9025 STA. 13+48.8 N 5190.2 E 6996.3 BEGIN EMBANKMENT EL. 1318.5 APPROX. DAYLIGHT STA. 0+39 STA. 6+00 INSTALL WATER CONTROL STRUCTURE END EMBANKMENT EL. 1318.5 APPROX. DAYLIGHT STA. 13+24 TOP OF EMBANKMENT 1318.5 8' TOP WIDTH, 3:1 SIDESLOPES CURVE DATA $\Delta = 56^{\circ}19'14''$ $R = 93.4'$ $T = 50.00'$ $L = 91.82'$	POOL 3 EMERGENCY SPILLWAY STA. 0+00 N 5508.5 E 5989.3 PC STA. 1+09.8 N 5577.6435 E 5903.9463 RADIUS POINT N 5538.7918 E 5872.4733 PT STA. 2+30.3 N 5530.979 E 5823.0875 STA. 3+00 N 5462 E 5834 BEGIN APPROACH CHANNEL EL. 1317.0 APPROX. DAYLIGHT STA. 0+04 STA. 0+89.8 BEGIN 2.5% SLOPE TO LEVEL CREST EL. 1317.5 STA. 1+09.8 BEGIN LEVEL CREST EL. 1317.5 END LEVEL CREST EL. 1317.5 APPROX. DAYLIGHT STA. 2+86 20' BOTTOM WIDTH, 3:1 SIDESLOPES CURVE DATA $\Delta = 138^{\circ}00'00''$ $R = 50.00'$ $T = 130.25'$ $L = 120.43'$
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ESTIMATED QUANTITIES

	SITE PREPARATION	EMBANKMENT
EMBANKMENT 'D'	546 CY	2872 CY *
* INCLUDES 15% SHRINKAGE		
POOL 3 E.S. EXCAVATION = 201 CY, HOWEVER, THIS IS A NON-PAY ITEM SINCE THE MATERIAL IS TO BE USED IN EMBANKMENT.		
EXCAVATION REQUIRED FOR INSTALLATION OF PLUNGE POOL IS INCIDENTAL TO PAY ITEM 'WATER CONTROL STRUCTURE'.		



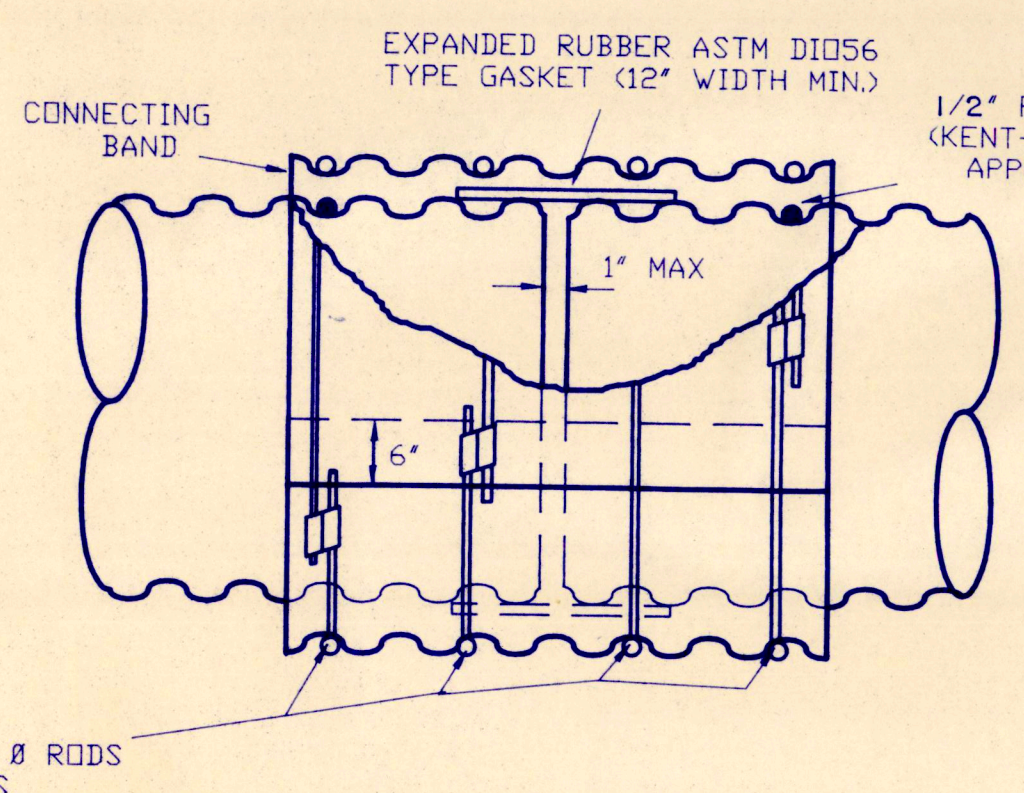
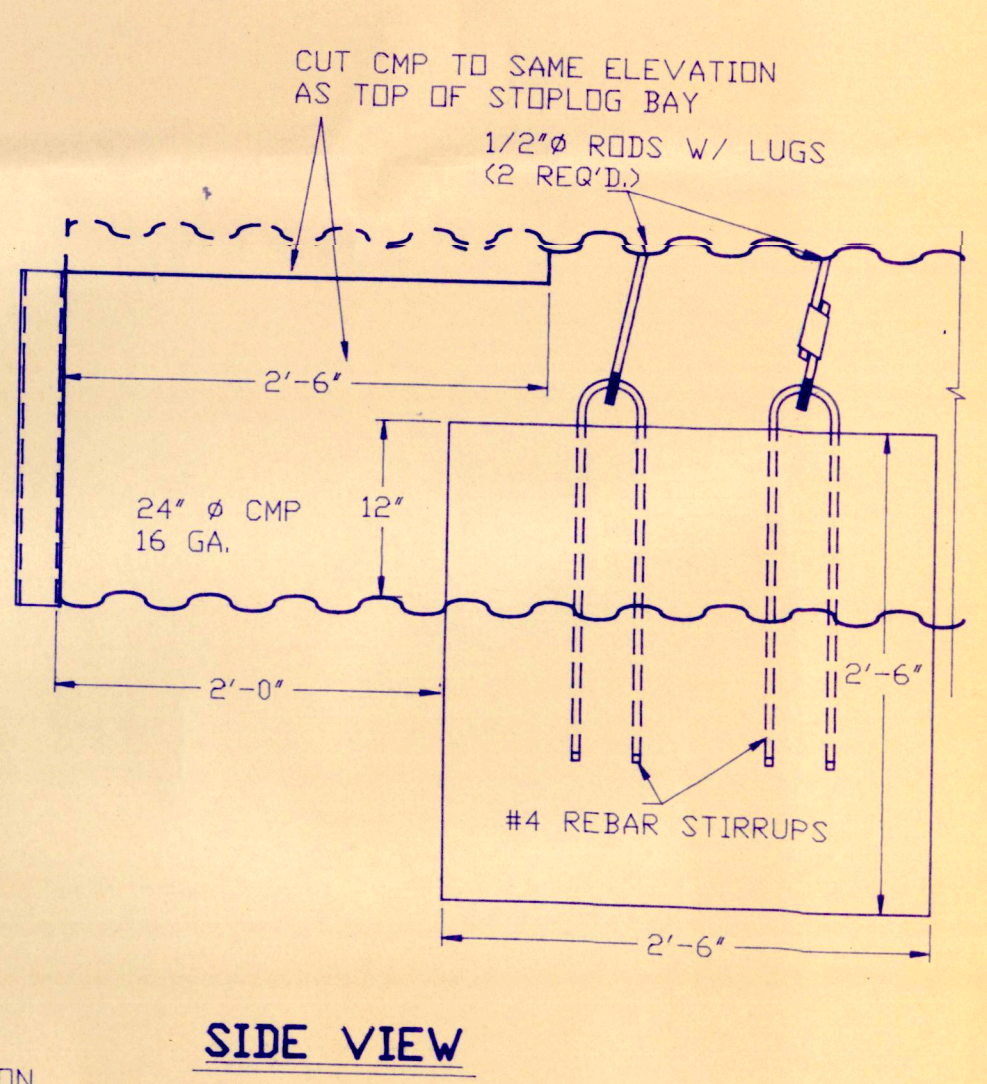
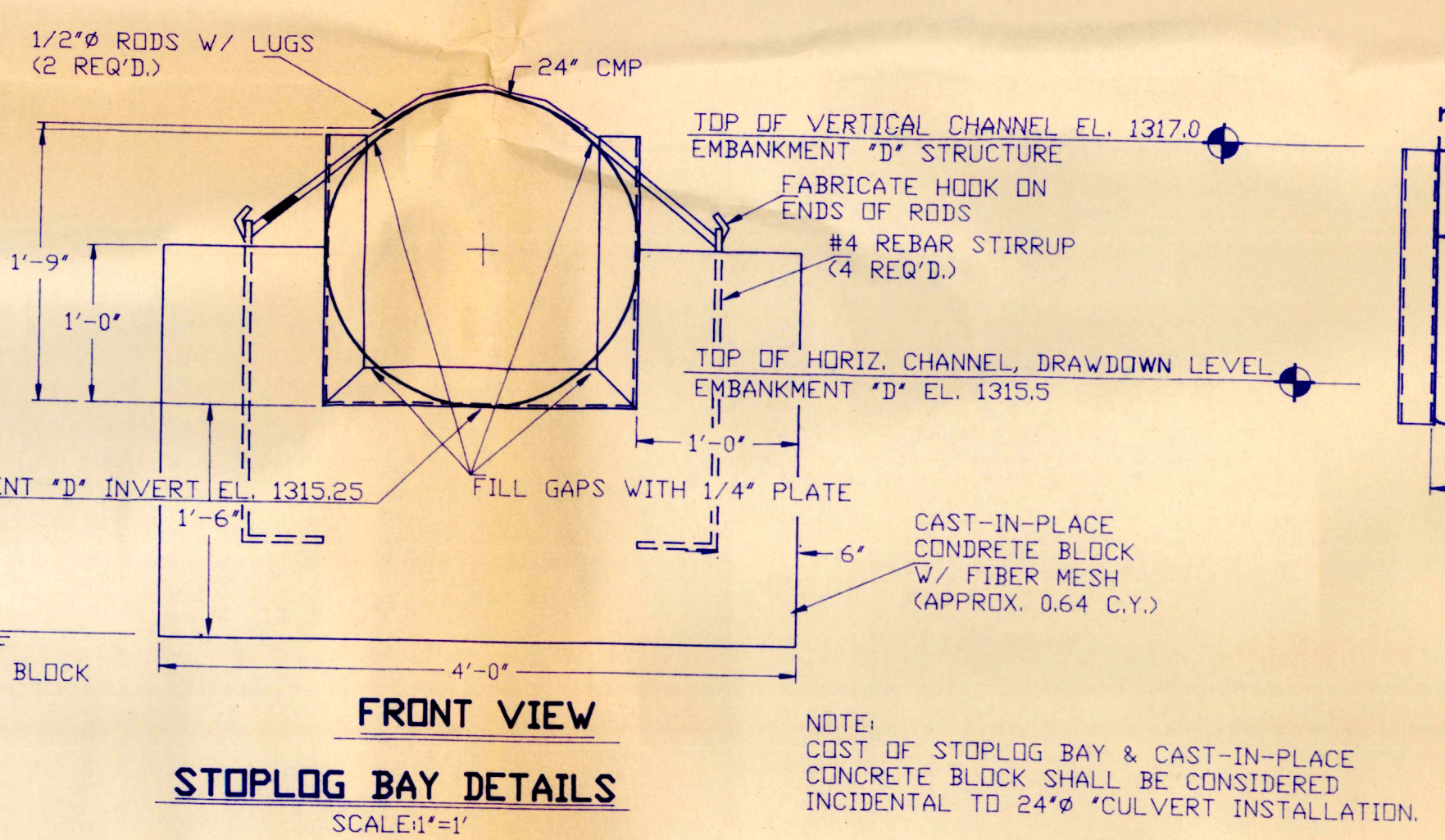
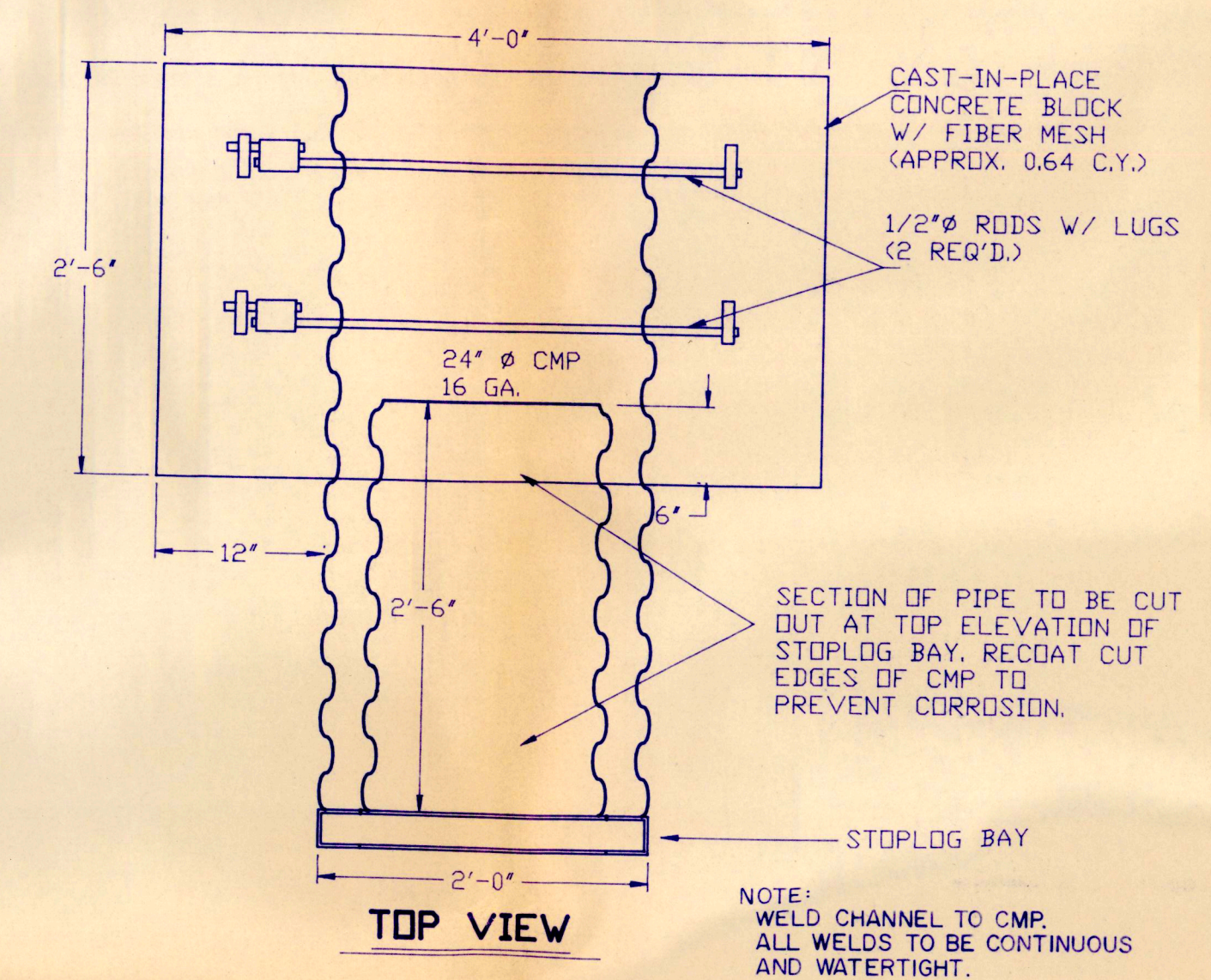
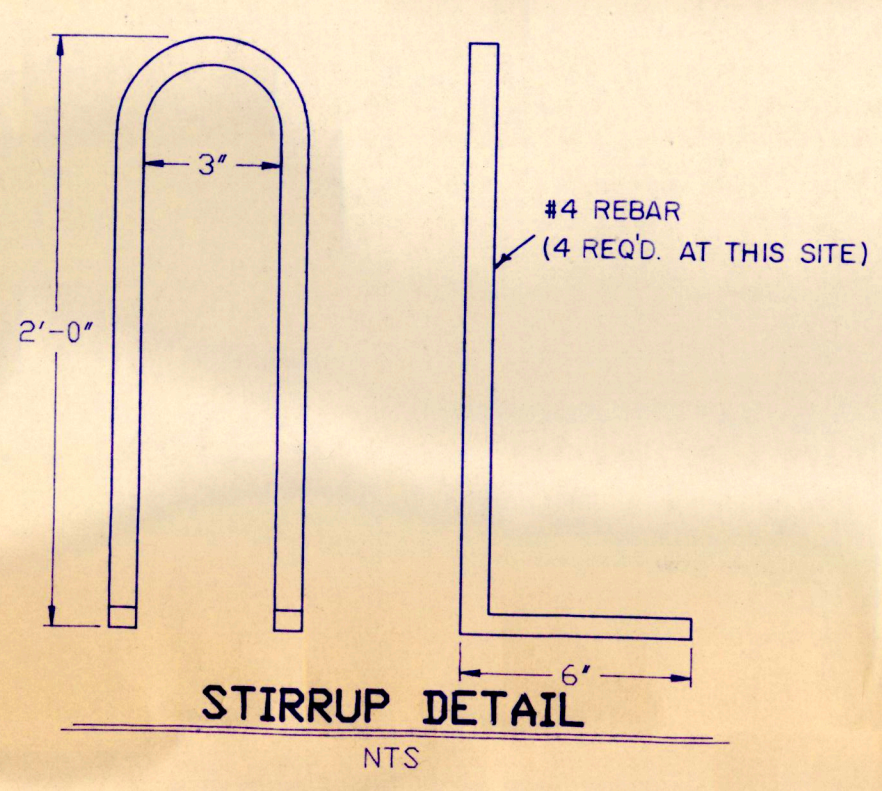
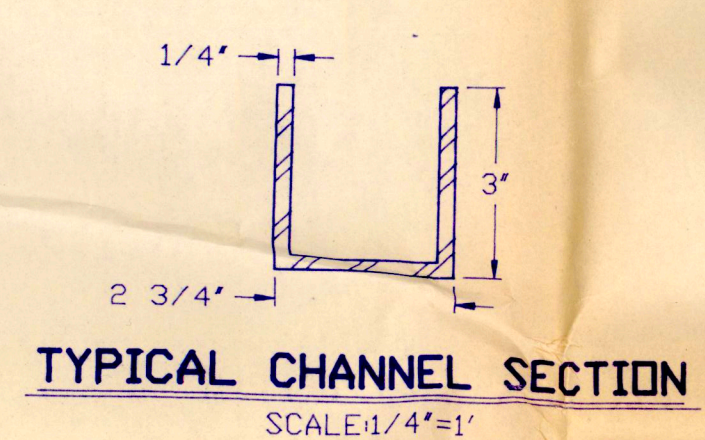
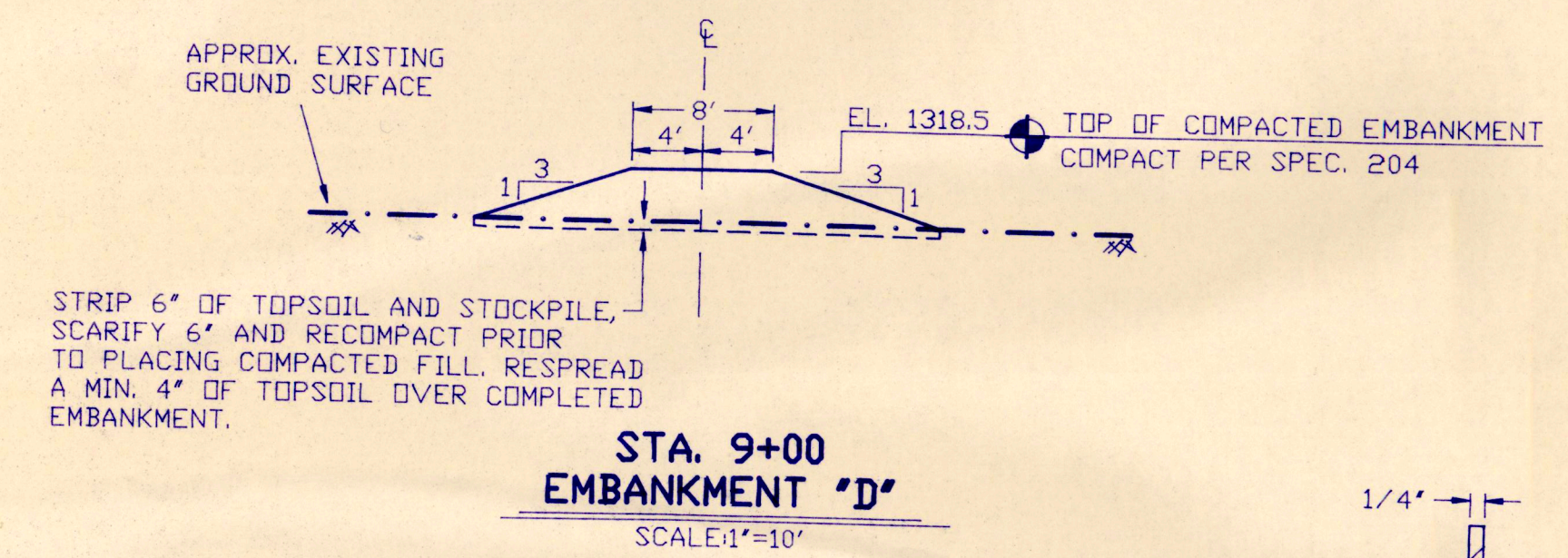
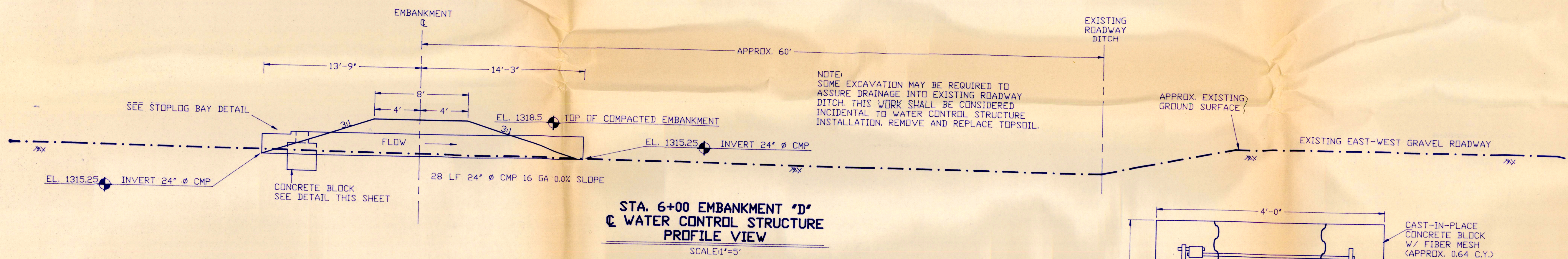
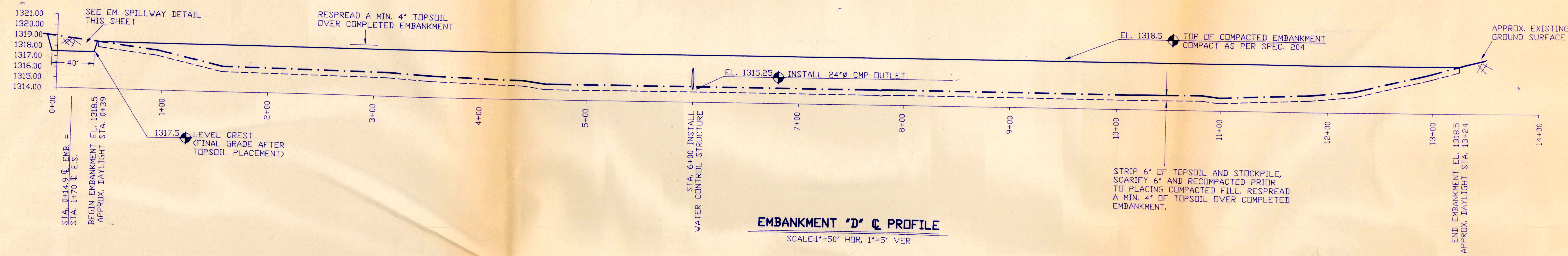
LEGEND

- x = FENCE
- o = POWER POLE
- = UG TELE BOX OR UG FIBER OPTICS BOX
- △ = DU CONTROL POINT, #5 REBAR CAPPED & STAMPED
- = APPROX. SOIL BORING LOCATION SEE SHEET 11 OF 11 FOR SOIL'S INFORMATION

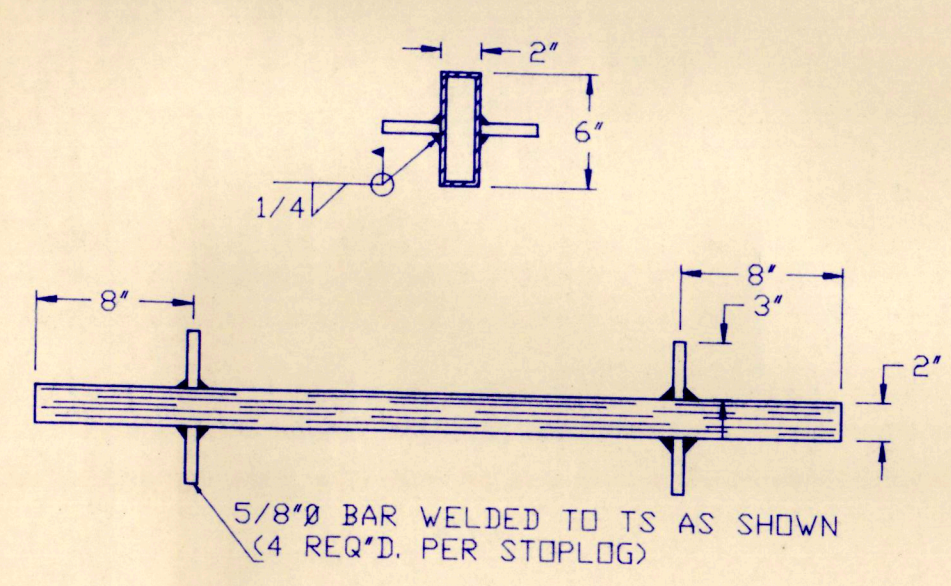
EMBANKMENT 'D' PLAN VIEW
SCALE: 1"=50'

DUCKS UNLIMITED INC. GREAT PLAINS REGIONAL OFFICE	PROJECT NO. SD-128-1 DEAN STRAND WETLAND	DESIGNED BY: D.J.L. DRAWN BY: J. TE CADD
	EMBANKMENT D SITE TOPOGRAPHY	SURVEYED BY: CHECKED BY:
DATE: 3-5-92	SHEET NO.: 9 OF 11	APPROVED BY:

5656-3



- NOTES**
- 1). 6\"/>



NOTE: ALL STEEL STOPLOGS EXCEPT BOTTOM ONE FURNISHED BY DUCKS UNLIMITED. CONTRACTOR SHALL SUPPLY & WELD ON PEGS, PLUS DELIVER LOGS TO SITE. BOTTOM LOGS SHALL BE 2\"/>

 DUCKS UNLIMITED INC. GREAT PLAINS REGIONAL OFFICE	PROJECT NO. SD-128-1		DESIGNED BY D.J.L.
	DEAN STRAND WETLAND		DRAWN BY B.T.E.
DATE 4-16-92	SHEET NO. 10 OF 11	EMBANKMENT D PROFILES	
		CHECKED BY: _____	SURVEYED BY: _____
APPROVED BY: _____		APPROVED BY: _____	

