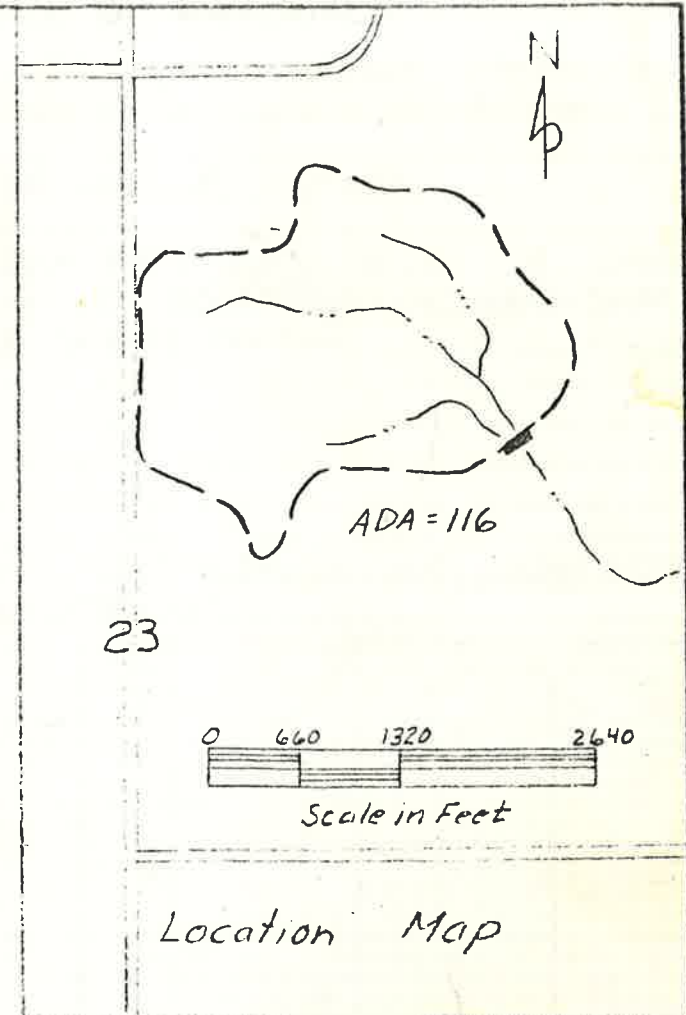


I hereby certify that this Application - Plan is an accurate and correct copy of the Application-Plan made a part of Iowa Natural Resources Council Order No. 81-104, Approved June 29, 1981

*[Signature]* Director  
IOWA NATURAL RESOURCES COUNCIL



RECEIVED

MAY 26 1981

I. N. R. C.

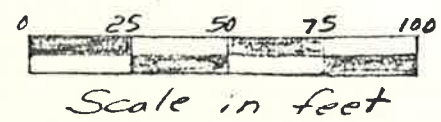
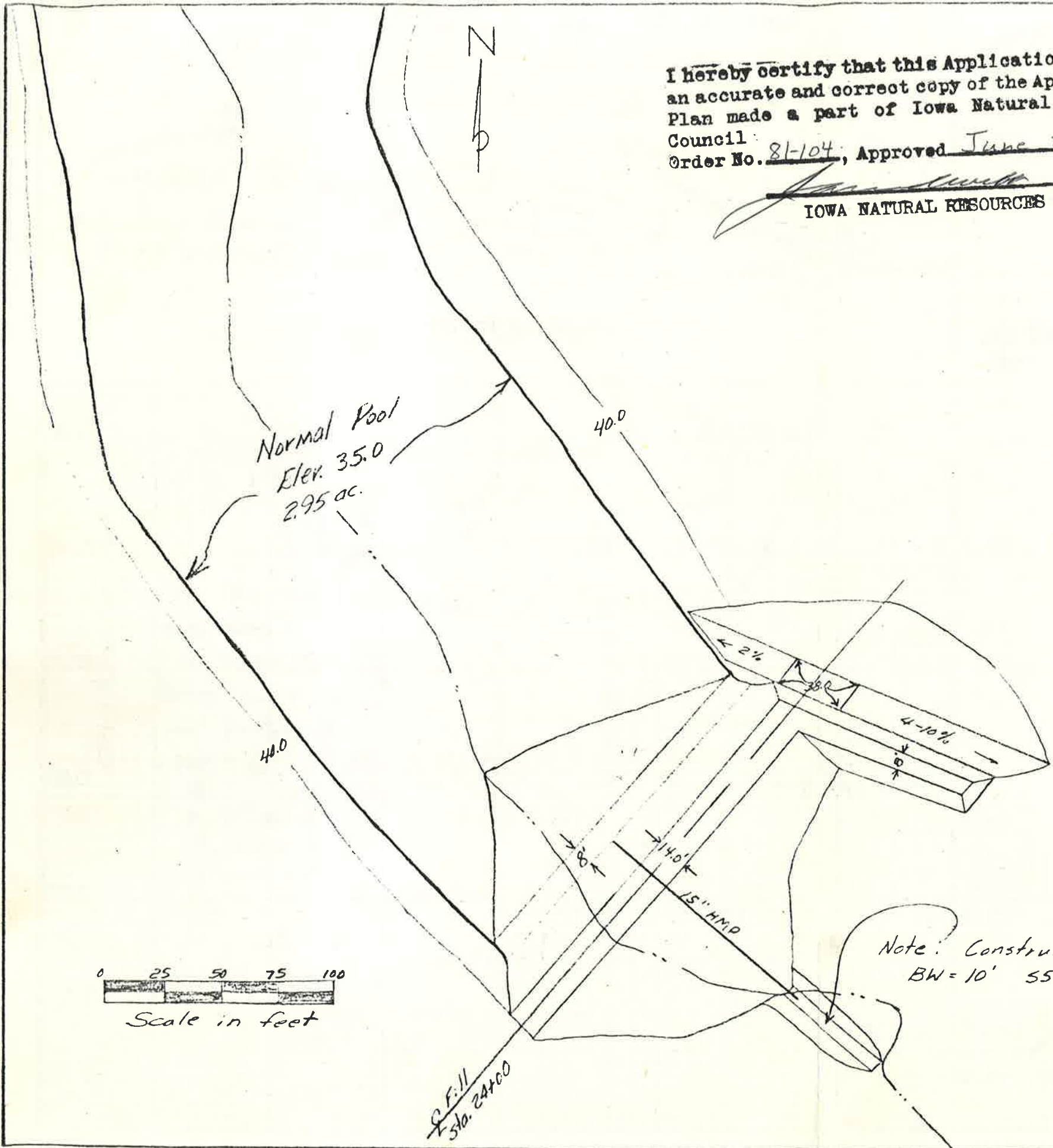
NE 1/4 Job Class IV G<sub>0</sub> Design

COOPERATOR D. Kimery SEC. 23 T. 80N R. 28W  
COOPERATING WITH Dallas SCD  
COUNTY Dallas STATE Iowa  
SURVEYED B. Stewart, R. Hill DATE 12-31-80

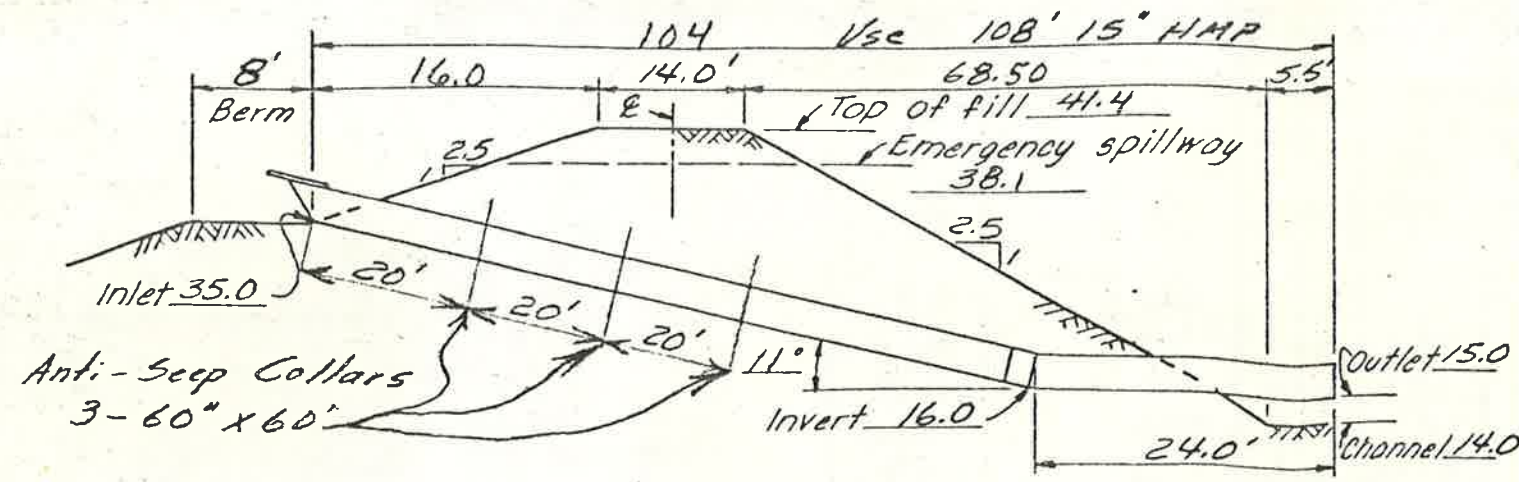
Delbert Kimery  
Plan - Location Map

U. S. DEPARTMENT OF AGRICULTURE  
SOIL CONSERVATION SERVICE

Designed	<u>K.L. Hunt</u> 3-81	Date	<u>3-81</u>
Drawn	<u>K.L. Hunt</u> 3-81	Checked	<u>F.W. Vos</u> 4/81
Traced		Sheet	No. <u>1</u> of <u>3</u>
Checked		Drawing No.	







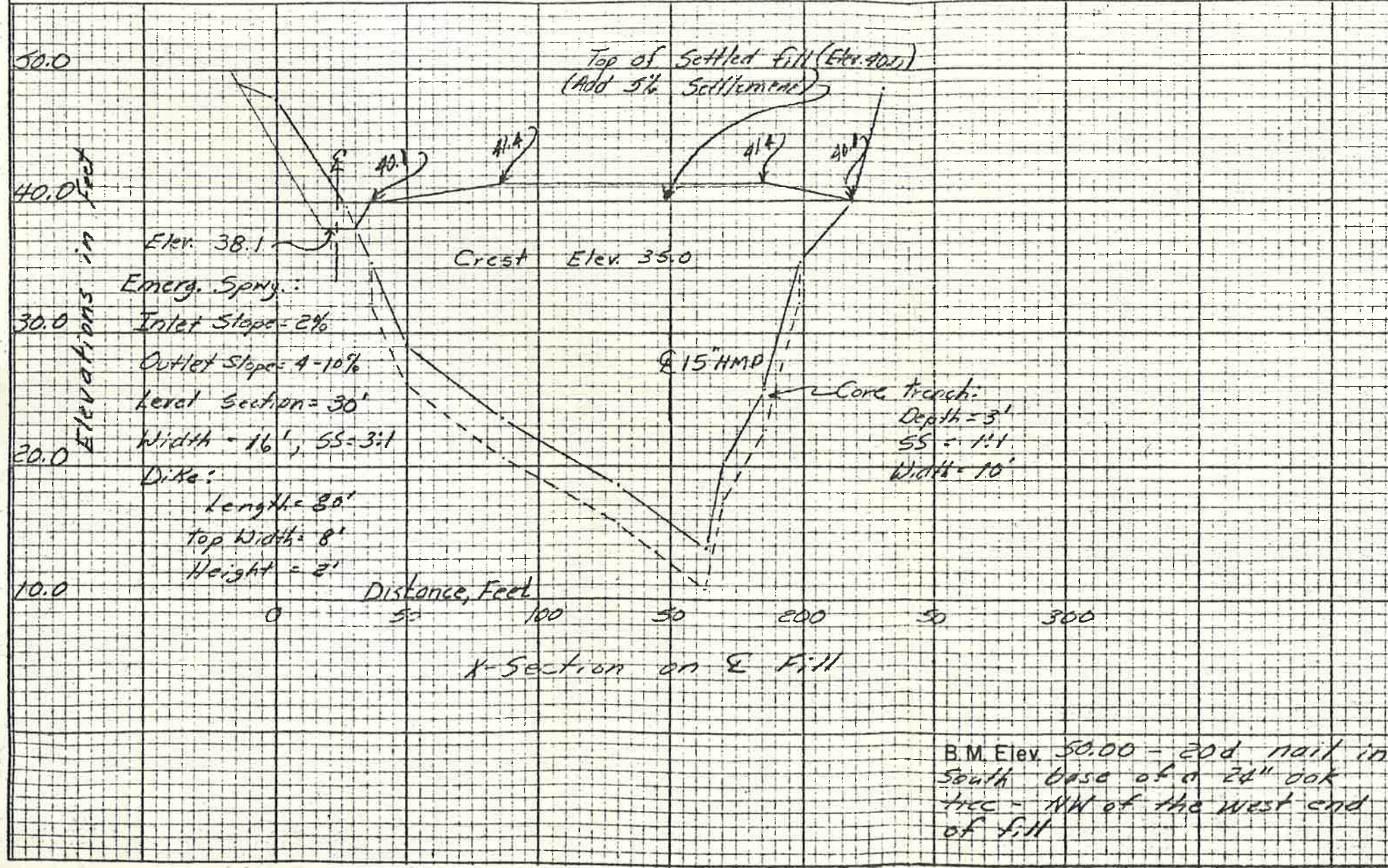
SECTION ON CENTERLINE

BILL OF MATERIALS

108 ft. of 15" dia 16 gage metal pipe with hood inlet  
 Pipe and appurtenances to be Copper steel with  
 Couled seams.  
 1-23" x 23" Anti-swirl plate

3 ea. antiseep collars 60" x 60", 16 ga. 2 piece.  
 Pipe connectors as necessary - 24" Watertight  
 bands with inner surface coated.

8059 cu. yd. earth fill Includes: stripping = 224 yds<sup>3</sup>;  
 Core = 196 yds<sup>3</sup>; Dike = 256 yds<sup>3</sup>.



JOB CLASS IV QNO DESIGN

HOOD INLET  
 Cooperator Delbert Kimery  
 NE 1/4 NE 1/4 Sec. 23 T. 80N R. 28W  
 Dallas County, Iowa  
 U. S. DEPARTMENT OF AGRICULTURE  
 SOIL CONSERVATION SERVICE

B.M. Elev. 50.00 - 20d nail in  
 South base of a 24" oak  
 tree - NW of the West end  
 of fill

Designed K.L. Hunt 3-81 Date 3-81  
 Drawn K.L. Hunt 3-81 Title Area Engineer  
 Traced \_\_\_\_\_  
 Checked F.W. Vos 4/81 Sheet 2 of 3



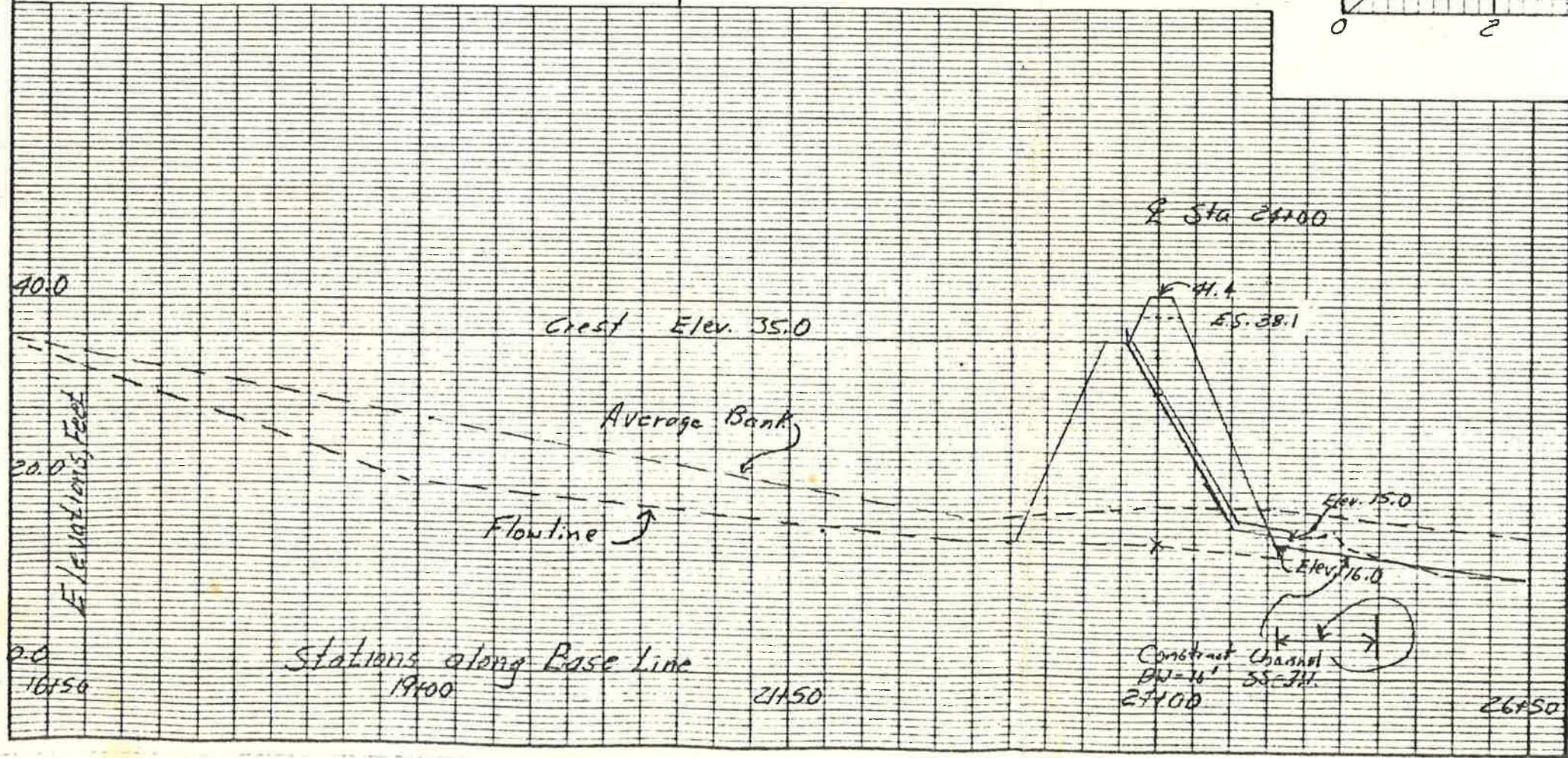
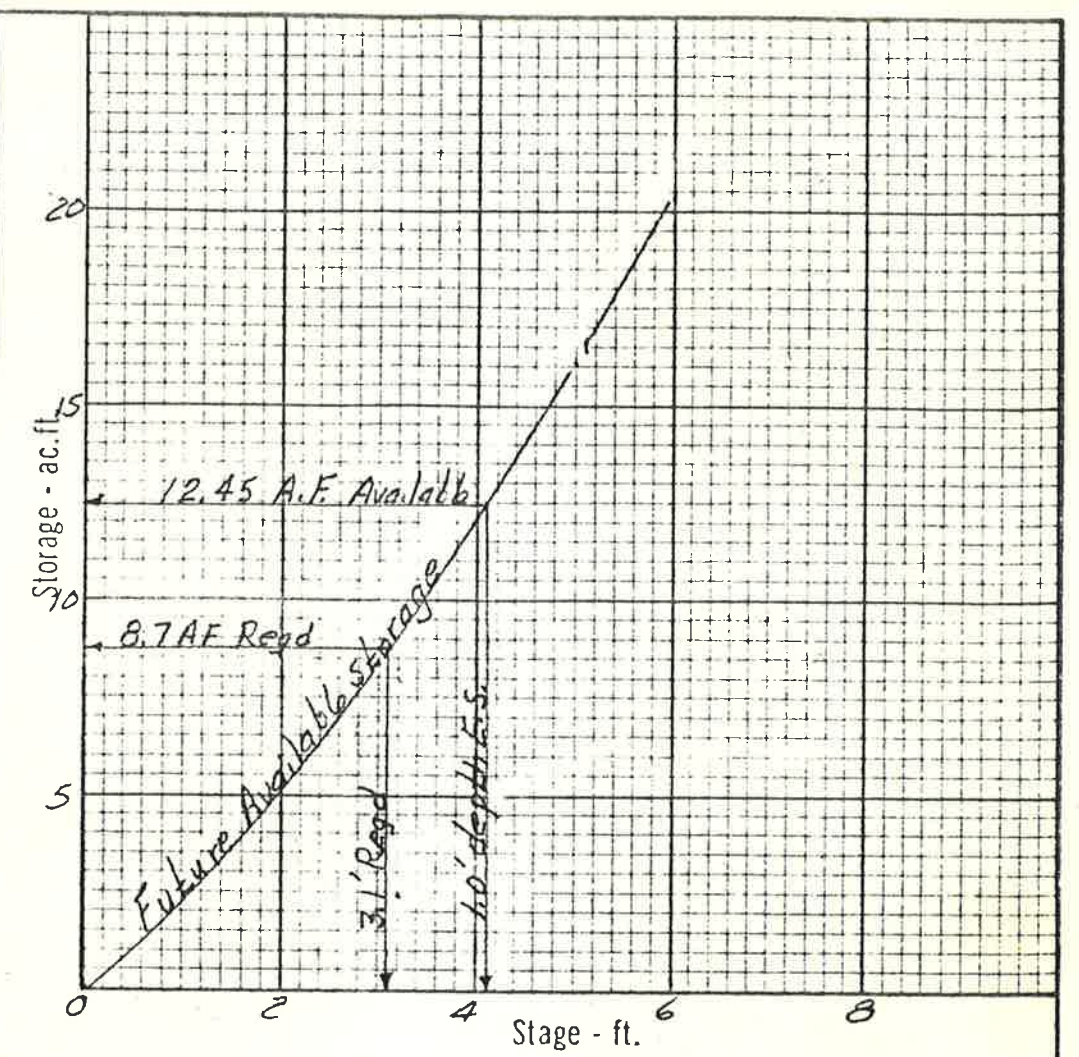
DESIGN DATA

ADA = 116 Acres ( — Acres level terraced)  
 Design frequency = Q10 year,  
 24-hr. rainfall = 4.7 in., Runoff Curve No. = 70  
 Runoff = 1.81 in., adjusted for terraces (Q) = —  
 Use 15 in. CMP, Hood inlet  
 $q_{mo} = a \sqrt{\frac{2gH}{1+1.08+K_{pL}}} = 8.02 (1.23) \sqrt{\frac{38.1-15.0-0.75}{2.08+(1.08)(6.086)}}$   
 $q_{mo} = 13.84$  c.f.s. (Pipe Discharge Table may be used instead of formula)  
 $Q = \frac{(q_{mo})(640)}{(ADA)} = \frac{640(13.84)}{(116)} = 76.37$  C.S.M.  
 $S = 0.9, V_{ts} = \frac{(S)(ADA)}{12} = \frac{(0.9)(116)}{12} = 8.7$  ac.ft.  
 Req'd. stage = 3.1 ft. (from stage storage curve)

AVAILABLE SEDIMENT AND SPILLWAY STORAGE

E L E V.	Stage in feet	Area flooded Acres	Interval storage Ac.ft.	Cumulative storage	
				Sediment Ac.ft.	Water Ac.ft.
18.0		0.0	—	—	—
22.0		0.51	1.02	1.02	
26.0		0.94	2.90	3.92	
30.0		2.05	5.98	9.90	
34.0		2.79	9.68	19.58	
35.0		2.95	2.37	22.45	
35.0		2.95	—		
38.0	3	3.44	9.59	1.16	8.43
40.0	5	4.16	7.60		16.02
41.0	6	4.46	4.31		20.33

$\frac{116 \times 12}{12} = 11.6$   
 Required Sediment Storage  
 Above crest 1.16 ac.ft.  
 Below crest 10.44 ac.ft.



Emergency Spillway Design  
 $Q = 44.47 \times 13.84 = 3063$  c.f.s.  
 $W = \frac{Q}{2} = 15.32$  ft.  
 Use 16'

Job Class IV Q10 Design  
 STRUCTURE HYDRAULICS  
 Delbert Kimery - Dallas Co.  
 Sec. 23, T-80N, R-28W  
 U. S. DEPARTMENT OF AGRICULTURE  
 SOIL CONSERVATION SERVICE  
 Designed K.L. Hunt 3-81  
 Drawn K.L. Hunt 3-81  
 Checked F.W. Vos  
 Date 3-81  
 Title Area Engineer  
 Sheet 3 of 3  
 Drawing No.