

CONVENTIONAL SIGNS

451-1	
451-2	
451-3	
451-4	
451-5	
451-6	
451-7	
451-8	
451-9	
451-10	
451-11	
451-12	
451-13	
451-14	
451-15	
451-16	
451-17	
451-18	
451-19	
451-20	
451-21	
451-22	
451-23	
451-24	
451-25	
451-26	
451-27	
451-28	
451-29	
451-30	
451-31	
451-32	
451-33	
451-34	
451-35	
451-36	
451-37	
451-38	
451-39	
451-40	

STATE OF IOWA  
STATE HIGHWAY COMMISSION

PLAN & PROFILE OF PROPOSED IMPROVEMENT  
ON THE

FARM TO MARKET SYSTEM  
CRAWFORD COUNTY

PROJECT NO. LSM-220-BP--73-24  
DESIGN FOR 151' - 4" X 30' - 0" PRETENSIONED PRESTRESSED  
CONCRETE BEAM BRIDGE (30° SKEW)

PLAN SCALE: 1" = 100 FT. VERT. SCALE: 1" = 10 FT.

THE IOWA STATE HIGHWAY COMMISSION STANDARD SPECIFICATIONS  
FOR CONSTRUCTION WORK, SERIES OF 1972 SHALL  
APPLY TO WORK ON THIS PROJECT, PLUS  
CURRENT SUPPLEMENTAL SPECIFICATIONS AND SPECIAL PROVISIONS.

NO.	DATE	BY
1	1972	

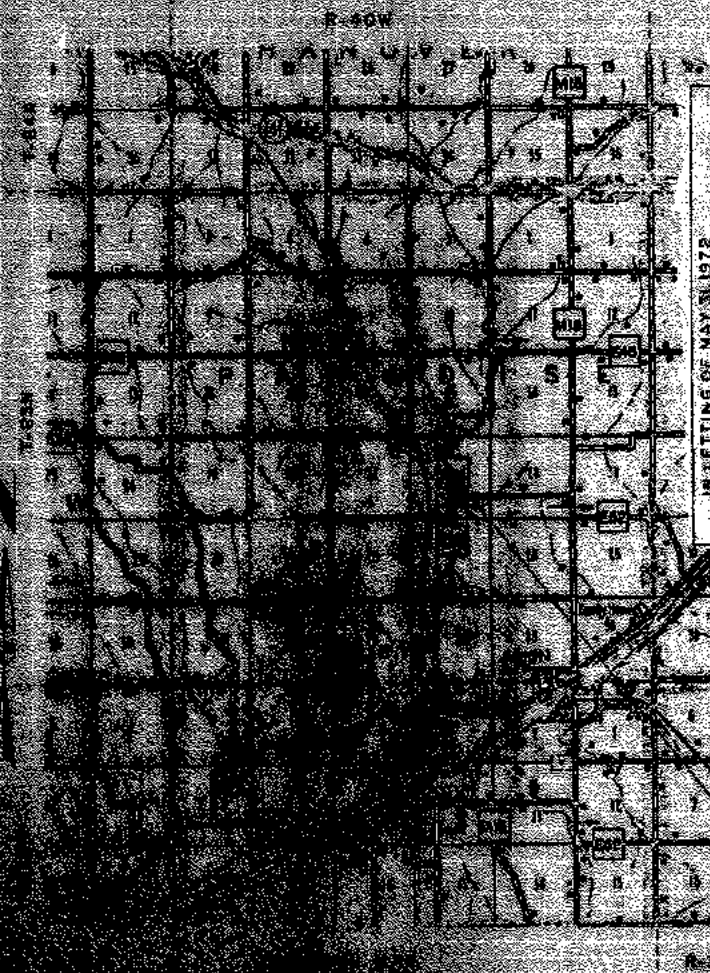
INDEX OF SHEETS

SHEET NO. 1 TITLE PAGE, INCLUDING CONVENTIONAL SIGNS,  
LAYOUT, AND MILEAGE SUMMARY  
2-5 DETAILS

MILEAGE SUMMARY

154' - 9 5/8" = 0.47932 MI.

*\* Pier piling changed to steel H pile w/ concrete encasement during construction*



PROJECT NO. LSM-220-BP--73-24		STA. 224+25.5	
SEC. 22		PARADISE TOWNSHIP	
151' - 4" X 30' PRETENSIONED PRESTRESSED CONCRETE BEAM BRIDGE (30°) SKEW			
ESTIMATE OF QUANTITIES			
NO.	ITEM	AMOUNTS	TOTALS
1	STRUCTURAL CONCRETE	29.8 C.Y.	240.0 C.Y.
2	REINFORCING STEEL		2718 LBS.
3	PRETENSIONED PRESTRESSED CONCRETE BEAMS		163.0 C.Y.
4	ALUMINUM RAILING		46,372 LBS.
5	PRECASTED PILES 18" @ 40'	720 L.F.	310.6 L.F.
6	CONCRETE PILES PIGA 16 TYPE III *		776 L.F.
7	EXCAV. CLASS 10 CHANNEL		2,563 C.Y.
8	EXCAV. CLASS 20	95 C.Y.	27,648 C.Y.
9	GRANULAR BACKFILL	75 C.Y.	95 C.Y.
10	4" TILE SUBDRAIN	143 L.F.	75 C.Y.
11	REMOVAL OF EXISTING STRUCTURE		143 L.F.
			BY OTHERS

IOWA STATE HIGHWAY COMMISSION STANDARDS REQUIRED (MAY BE OBTAINED @ STOREROOM)		
STANDARD	DATE ISSUED	LATEST REVISION
H16-70	JUNE 1969	
H16-1-70	JUNE 1969	
H16-6-70	JUNE 1969	
H16-7-70	JUNE 1969	
H16-8-70	JUNE 1969	
H16-11-70	JUNE 1969	
H16-14-70	JUNE 1969	
PIGA	JUNE 1959	NOV. 8, 1971

1. THE FLOOR CURBS AND WING POSTS 1888 CU.YDS ARE TO BE CLASS C CONCRETE.  
THE REMAINING 56 242 CU.YDS. IS TO BE CLASS C' CONCRETE.  
6. THE 8 PILES @ 48' REQUIRE STEEL DRIVING POINTS (SEE PIGA STD.)

NOTE: BRIDGE CONTRACTOR TO COORDINATE HIS WORK WITH BRADING CONTRACTOR TO EXPEDITE ENTIRE PROJECT.  
BRIDGE SIGN ASSEMBLY NOTE: THIS BRIDGE WILL REQUIRE BRIDGE SIGN ASSEMBLIES (FURNISHED AND PLACED BY OTHERS) IN ACCORDANCE WITH SECTION 20-5 OF I.H.C. MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, DATED 1971.  
STA. 224+25.5 151' - 4" X 30' - 0" PRETENSIONED PRESTRESSED CONCRETE BEAM BRIDGE (30°) SKEW

APPROVED  
John White  
Thomas E. DeWitt  
W. C. ...  
K. ...  
Board of Supervisors

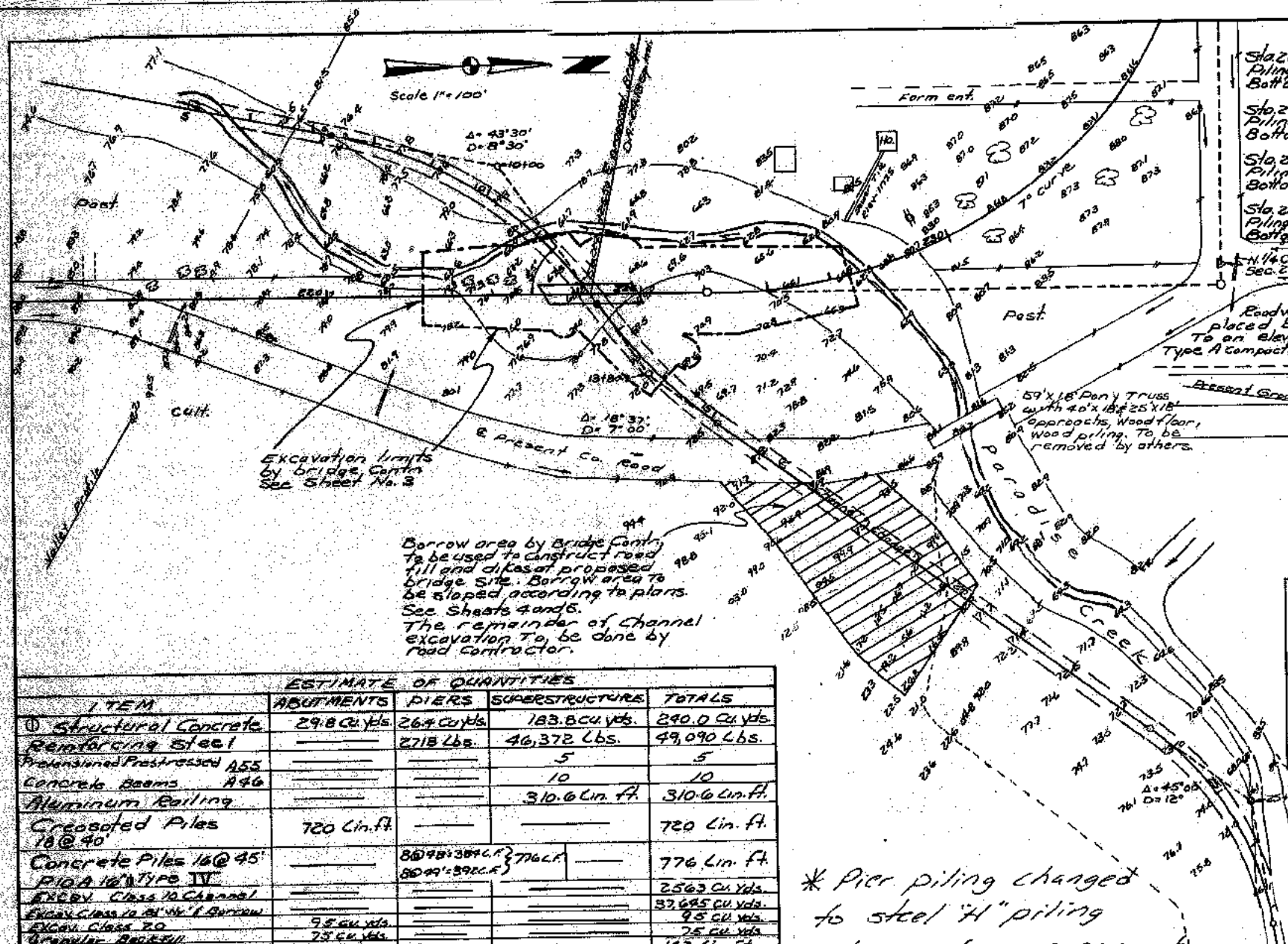
I hereby certify that the plan, profile, specifications of work and quantities are correct and true to the original survey and design, under the supervision of the undersigned.  
Dated: ...

APPROVED  
Thomas E. DeWitt 5-31-72  
RESIDENT DISTRICT ENGINEER DATE  
SECONDARY ROADS IOWA HIGHWAY COMMISSION

U.S. DEPT. OF TRANSPORTATION  
FEDERAL HIGHWAY ADMINISTRATION  
APPROVED  
DIVISION ENGINEER DATE

1971 TRAFFIC 47 Y. RD.

BM # 46 Spk in fence Post 225' Ct. Sta. 226+36 Elev. 1182.98

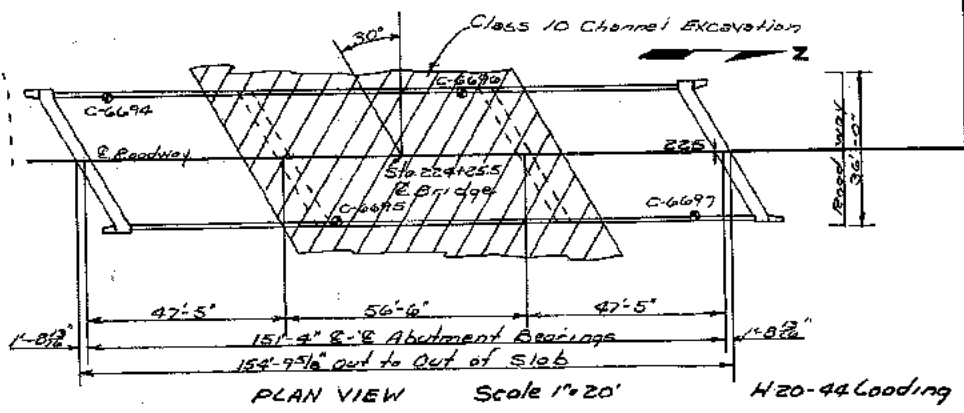
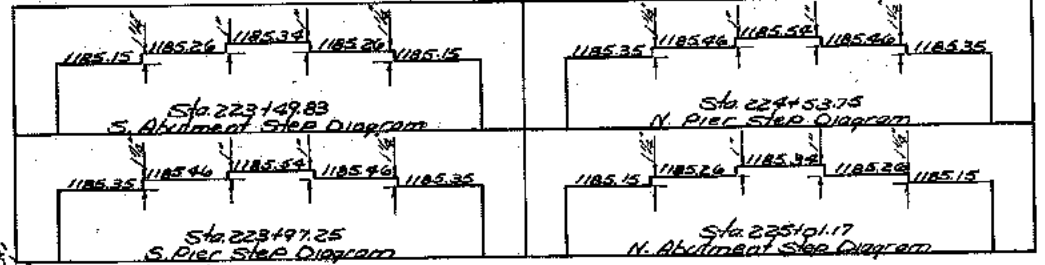
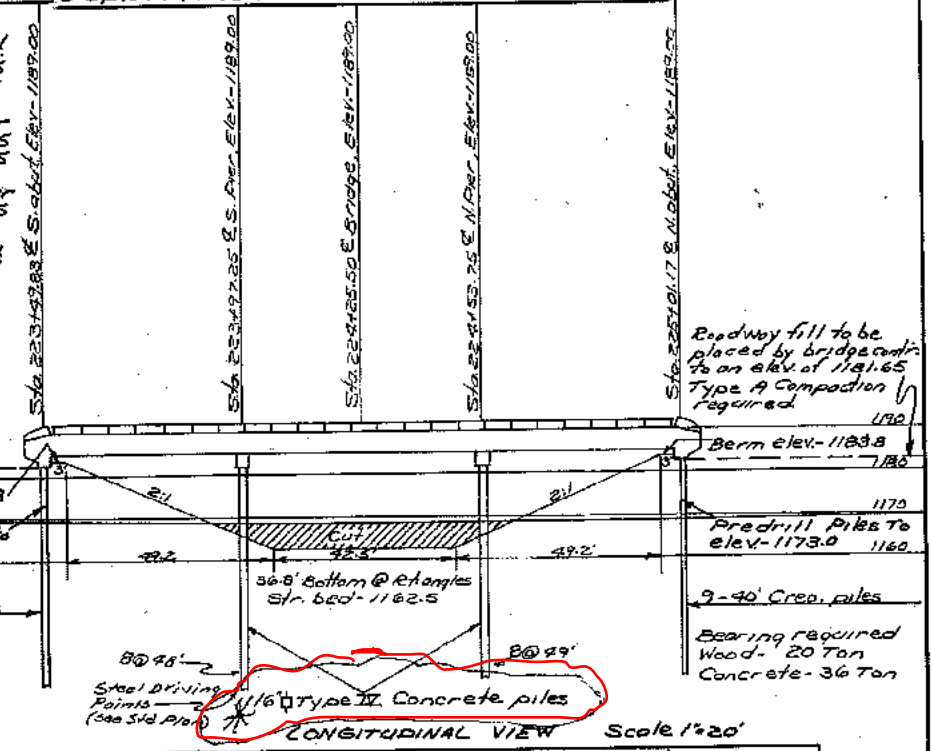


Sta 223+49.83 E.S. abut.  
Piling cut off - 1183.65  
Bottom abut. - 1181.65

Sta 223+49.25 E.S. Pier  
Piling cut off - 1183.85  
Bottom Pier - 1182.35

Sta 224+53.75 E.N. Pier  
Piling cut off - 1183.85  
Bottom Pier - 1182.35

Sta 225+01.17 E.N. abut.  
Piling cut off - 1183.65  
Bottom abut. - 1181.65

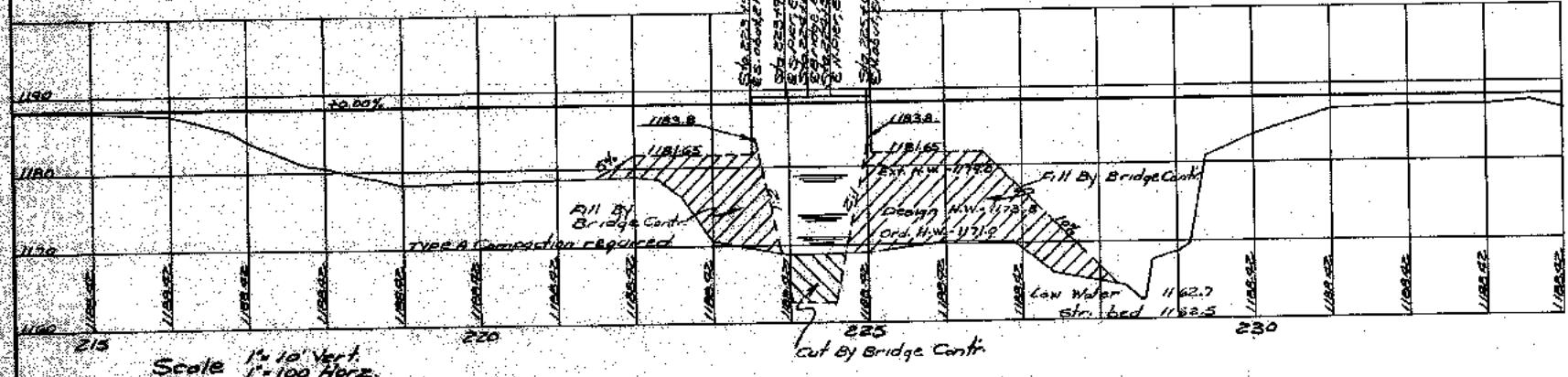


Borrow area by bridge contractor to be used to construct road fill and dikes at proposed bridge site. Borrow area to be sloped according to plans. See Sheets 4 and 5. The remainder of channel excavation to be done by road contractor.

ITEM	ESTIMATE OF QUANTITIES			TOTALS
	ABUTMENTS	PIERS	SUPERSTRUCTURE	
Structural Concrete	29.8 cu yds	26.4 cu yds	183.8 cu yds	240.0 cu yds
Reinforcing Steel		2718 Lbs.	46,372 Lbs.	49,090 Lbs.
Prestressed Prestressed A55			5	5
Concrete Beams A46			10	10
Aluminum Railing			310.6 Lin. Ft.	310.6 Lin. Ft.
Crested Piles 18@40	720 Lin. Ft.			720 Lin. Ft.
Concrete Piles 16@45 Pile A 16" Type IV		80' @ 11' 3" x 11' 3" (2776 Lb.) 80' @ 9" x 9" (2776 Lb.)		776 Lin. Ft.
EXCAV. CLASS 10 CHANNEL				2563 cu yds
EXCAV. CLASS 10 AT 1/2' BURN				37,695 cu yds
EXCAV. CLASS 20	9.5 cu yds			9.5 cu yds
Gravel Backfill	75 cu yds			75 cu yds
6" O. TIE SUBDRAIN	183 Lin. Ft.			183 Lin. Ft.
Removal of Existing Structure				183.8 cu yds

The floor, curbs and wing posts, 183.8 cu yds are to be Class 'D' concrete. The remaining 56.2 cu yds. is to be Class 'C' concrete.

\* Pier piling changed to steel "H" piling w/concrete encasement during construction

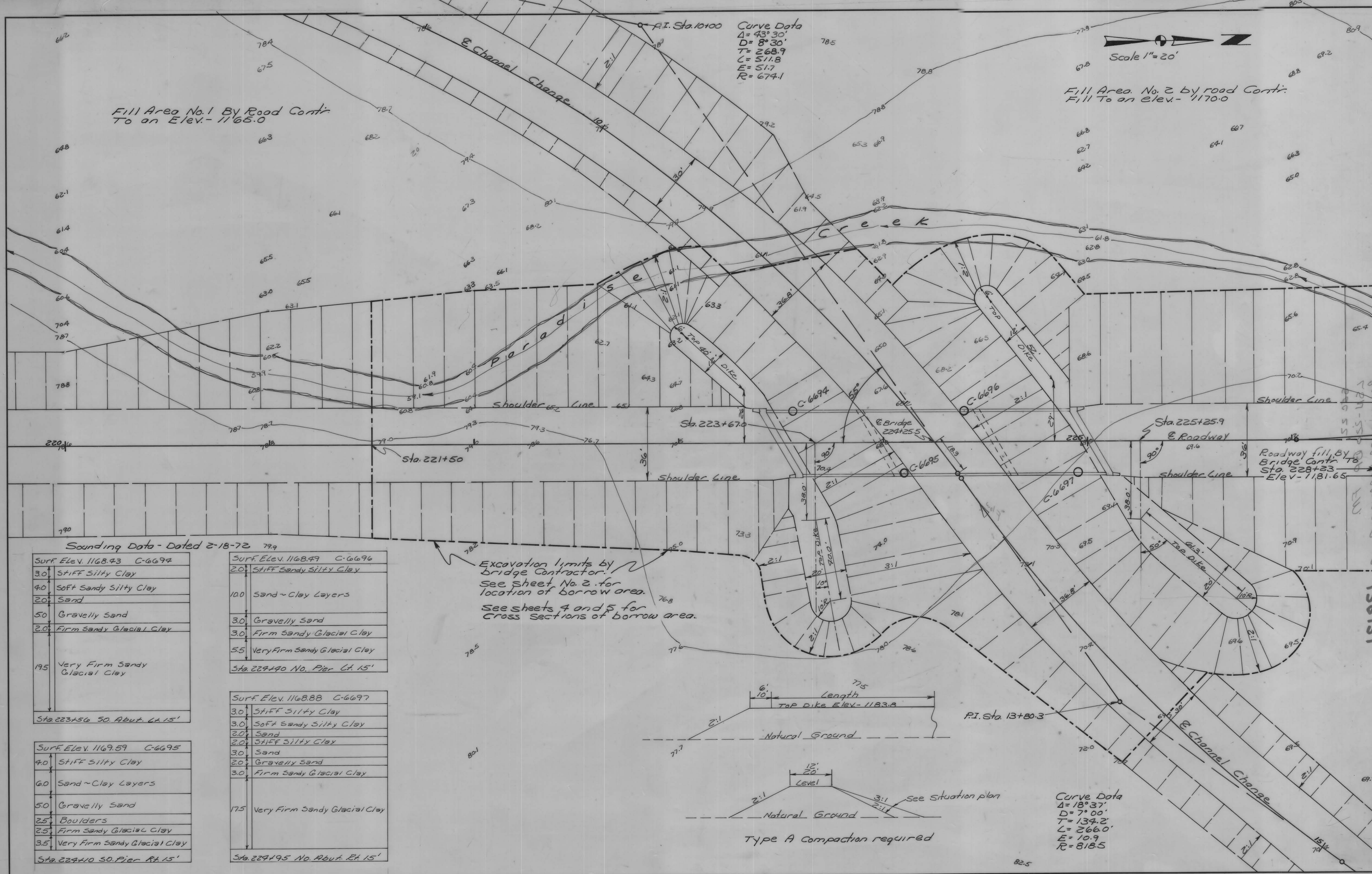


**LOCATION**  
SEC. 22-83-40 OVER PARADISE CREEK

Design Q = 5,500 C.Fs.

WP = 87.4  
A = 650.62  
R = 7.44 R<sup>2</sup> = 3.82  
V = 4.826 (3.82)(.0521)  
0.35  
V = (42.46)(3.82)(.0521) = 8.45 f.p.s.  
Q = (8.45)(650.62) = 5498 cfs.  
@ Elevation of 1173.8

**DESIGN FOR 30° SKEW**  
151'-4" x 30'-0" PRETENSIONED PRESTRESSED CONCRETE BEAM BRIDGE  
ALUMINUM HANDRAILS  
STUB ABUTMENTS AND CONCRETE PILE BENTS  
STA. 224+25.5 PROJ. NO. LSN-220-BP-73-24  
CRAWFORD COUNTY



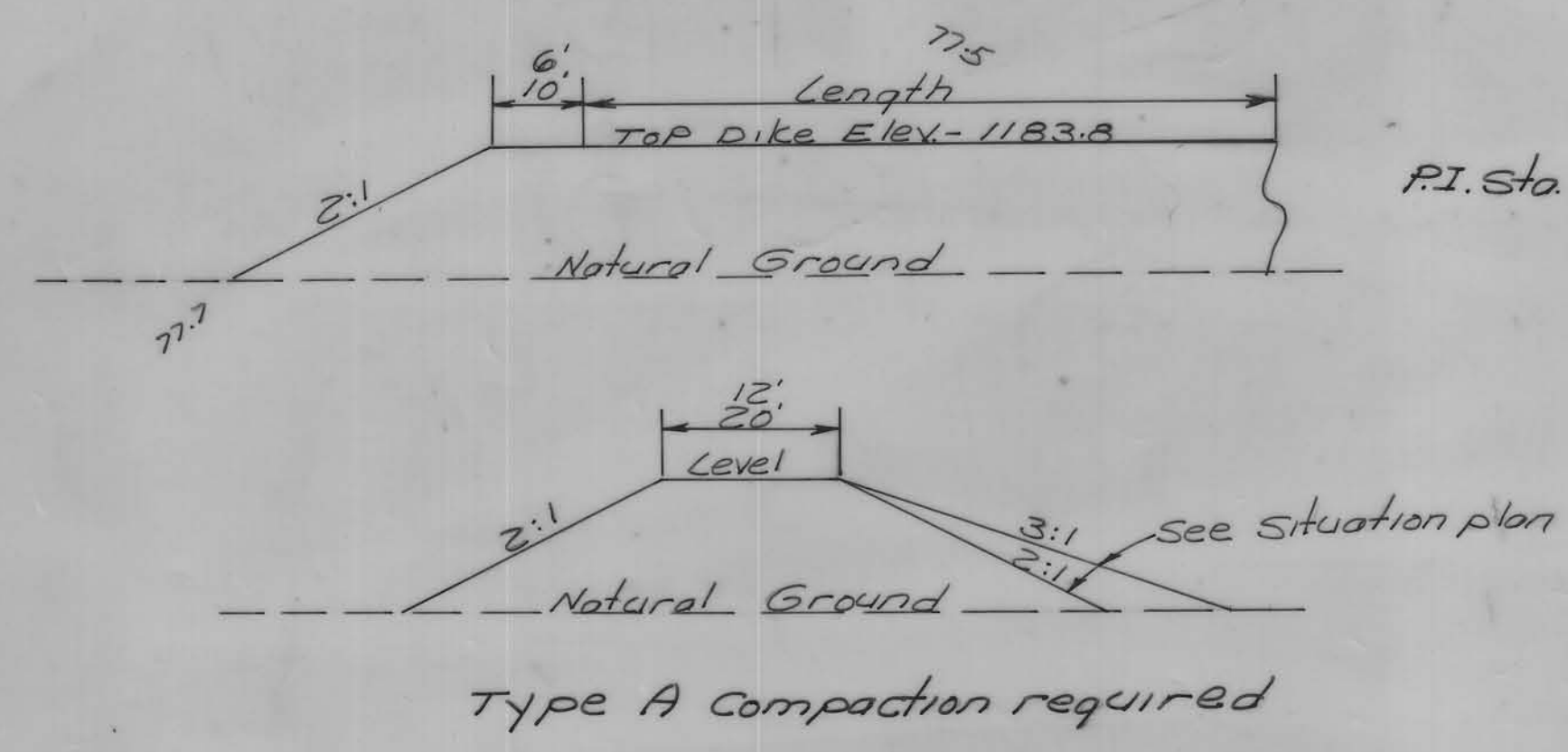
Sounding Data - Dated 2-18-72

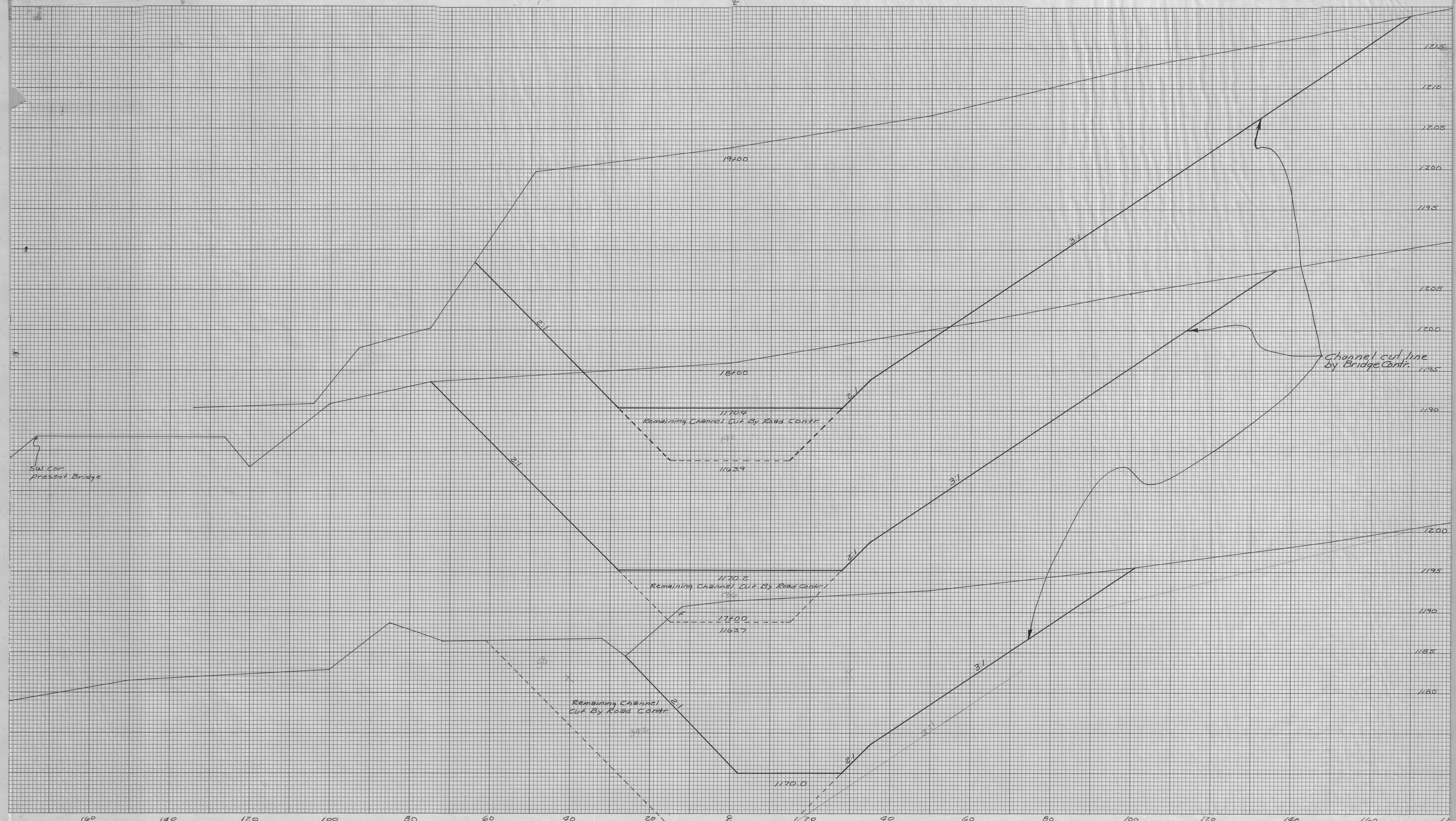
Surf. Elev. 1168.43	C-6694
3.0	Stiff Silty Clay
4.0	Soft Sandy Silty Clay
2.0	Sand
5.0	Gravelly Sand
2.0	Firm Sandy Glacial Clay
19.5	Very Firm Sandy Glacial Clay
Sta. 223+56 SO. Abut. Lt. 15'	

Surf. Elev. 1168.49	C-6696
2.0	Stiff Sandy Silty Clay
10.0	Sand ~ Clay Layers
3.0	Gravelly Sand
3.0	Firm Sandy Glacial Clay
5.5	Very Firm Sandy Glacial Clay
Sta. 224+90 No. Pier Lt. 15'	

Surf. Elev. 1169.59	C-6695
4.0	Stiff Silty Clay
6.0	Sand ~ Clay Layers
5.0	Gravelly Sand
2.5	Boulders
2.5	Firm Sandy Glacial Clay
3.5	Very Firm Sandy Glacial Clay
Sta. 224+10 SO. Pier Rt. 15'	

Surf. Elev. 1168.88	C-6697
3.0	Stiff Silty Clay
3.0	Soft Sandy Silty Clay
2.0	Sand
2.0	Stiff Silty Clay
3.0	Sand
2.0	Gravelly Sand
3.0	Firm Sandy Glacial Clay
17.5	Very Firm Sandy Glacial Clay
Sta. 224+95 No. Abut. Rt. 15'	

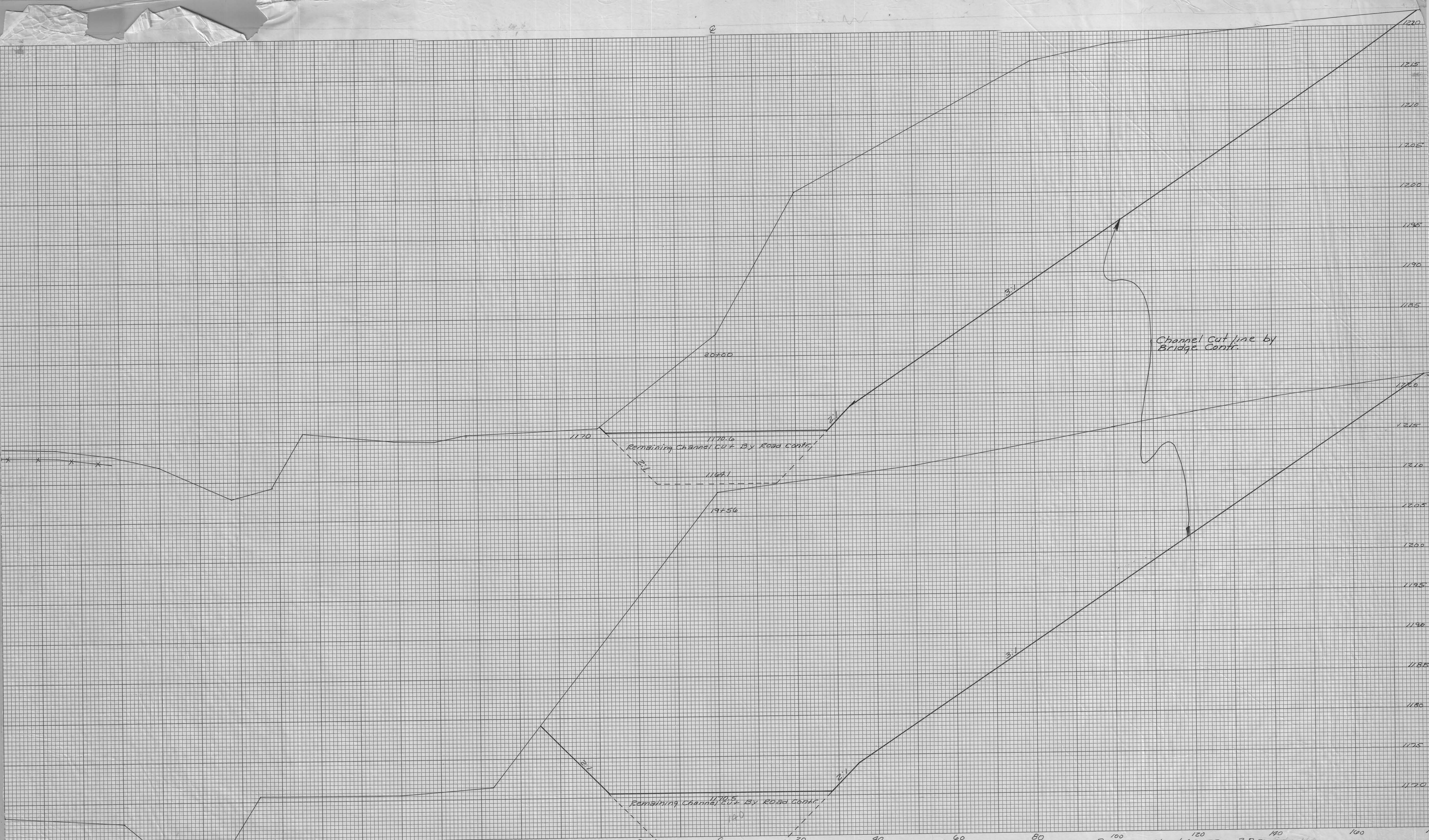




PRINTED IN U.S.A.

PERFECT CROSS SECTION  
10 X 10 = ONE INCH  
EUGENE DIETZGEN CO.

Crawford County Project No. CSM-220-BP-73-2A-ND  
File No. 24628 Sheet No. 4 of 5



"PERFECT" CROSS SECTION  
 10 X 10 = ONE INCH  
 EUGENE DIETZGEN CO.

PRINTED IN U.S.A. 11640

Crawford County Project No. LSN-220-BP-73-24  
 File No. 2462B Sheet No. 5 of 5  
 EUGENE DIETZGEN CO.