STATE OF KANSAS

STATE HIGHWAY COMMISSION

PUB. ROAD NO. | STATE PROJECT NO. | SHEET NO. | TOTAL SHEETS

KANSAS 96-87K5020(2) 56 1 12

INDEX OF SHEETS

Sheet No. 1. Title Sheet
2. Plan and Profile
3. Construction Layout
4. Engineering Geology
5. Abutment Details
6. Pier Details, Standard Pile Details
7. Prestressed Beam Details
8. Bearing and Expansion Device Details
9. Superstructure Details
10. Supports & Spacers for Reinforcing Steel
11. Bridge Excavation — 11A. Rip Rap Details
12. Summary of Quantities

PLAN AND PROFILE OF PROPOSED

STATE HIGHWAY

SEDGWICK CO.

K 96

BRIDGE ONLY

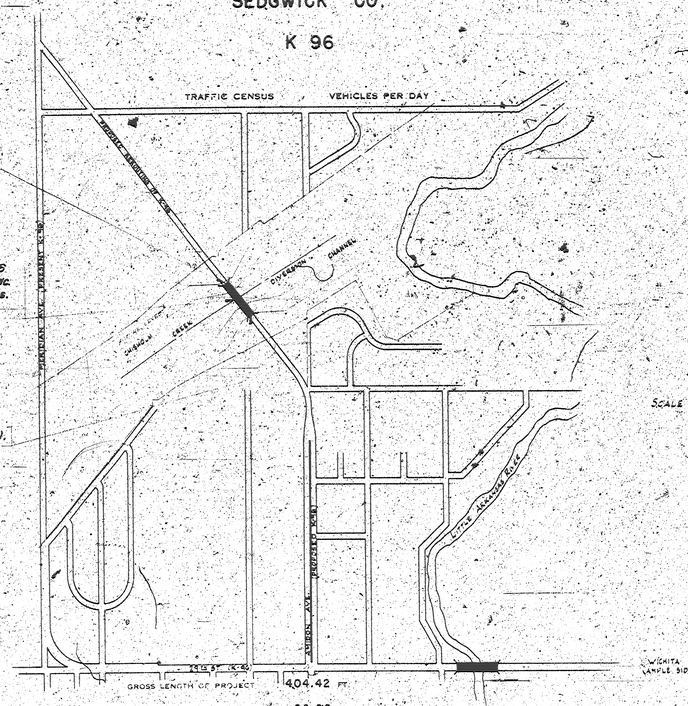
AMIDON & CHANNEL 'B'

8 SHEETS

Sta. 40+18.10 END Proj. 96-87K5020(2).

Sta. 38+15.89 Construct Br. No. 96-87-27.6 54'-9"-6@58'-3"-54'-9" Cont. Prestressed Conc. Girder Spans, Pile Bent Type Piers & Abuts. 28'-0" Roadway.

Sta. 36+13.68 BEGIN Proj. 96-87K5020(2).



SCALE 10"=1 MILE

CONVENTIONAL SIGNS

COUNTY LINE	RETAINING WALL		
CITY, VILLAGE, OR BOROUGH	BASE OF SURVEY LINE	60	
STATE OR NATIONAL LINE	LEVEE		
TOWNSHIP LINE	CULVERTS		
SECTION LINE	DROP INLETS		
GRANT LINE	TROLLEY POLE		
FENCE LINE	POWER LINE		
GUARD FENCE	TELEPHONE OR TELEGRAPH LINE		
UNFENCED PROPERTY	MARSH		
RIGHT OF WAY LINE	HEDGE		
TRAVELLED WAY	TREES		
RAILROADS	GRADE ELEVATION	1234.5	

GROSS LENGTH OF PROJECT	404.42	FT.	
EXCEPTIONS	00.00		
ADDITIONS	00.00		
NET LENGTH OF PROJECT	404.42	FT.	0.076 MILES
NET LENGTH OF BRIDGE	404.42	FT.	0.076 MILES
NET LENGTH OF ROAD	00.00	FT.	0.000 MILES

PLANS PREPARED BY:

R. S. DELAMATER
Consulting Engineer
Wichita, Kansas
DATE: November 1958

RECOM. FOR APPROVAL DATE

ENGINEER OF DESIGN
STATE HIGHWAY COMMISSION OF KANSAS

RECOM. FOR APPROVAL DATE

ENGINEER
BUREAU OF PUBLIC ROADS
DEPARTMENT OF COMMERCE

APPROVED DATE

STATE HIGHWAY ENGINEER
STATE HIGHWAY COMMISSION OF KANSAS

APPROVED DATE AMIDON

DISTRICT ENGINEER
BUREAU OF PUBLIC ROADS
DEPARTMENT OF COMMERCE

P.I. Center Sec. Cor. Sec. 31
Iron over stone @ P.I.
68.8' S.E. to N.W. corner of driveway
86.0' S.E. to 3" Elm tree
89.0' S.E. to N.W. cor of house 555 N. Amidon
52.2' S. to N. Face of House
72.6' E. to W. Face of House

Curve Data:
Δ = 38°42' 48"
D = 10°
R = 572.96'
T = 201.28'
L = 387.13'

N.W. ¼ Sec. 31, T. 26 S., R. 1 E.

Sta. 36+13.68 BEGIN Proj. 96-87 K 5020(2)

Sta. 38+15.89 Construct 54'-9"-5 @ 58°35'-54.9' Cent. Prestressed Conc. Girder Spans, Pile Bent Type Piers & Abutments. 28'-0" Roadway.

Sta. 40+18.10 END Proj. 96-87 K 5020(2)

Plan 1" = 100'
Profile Horiz. 1" = 10'
Vert. 1" = 10'

RW 65' E
RW 50' E

Chisholm Creek Diversion Channel

Rt. Diversion Channel

Lt. Diversion Channel

Note: Channel excavation and roadway construction will be by the Corps of Engineers and Sedgwick County. This sheet is for construction of the bridge only. This sheet is for information only.

RW 65' E
℄ Lt. Bk. of Levee
Top Elev. 1331.00

RW 50' E
℄ Rt. Bk. of Levee
Top Elev. 1330.00

Channel Elev. 1310.2

Typical Channel Section @ Bridge

30'

Typical Approach Road Section

Temporary B.M. E-12 Elev. 1321.736
Mark is chiseled □ in 4"x 4" concrete post. 3' N.W. of center of Section 31.

100' V.C.

100' V.C.

H.W. Elev. 1327.0

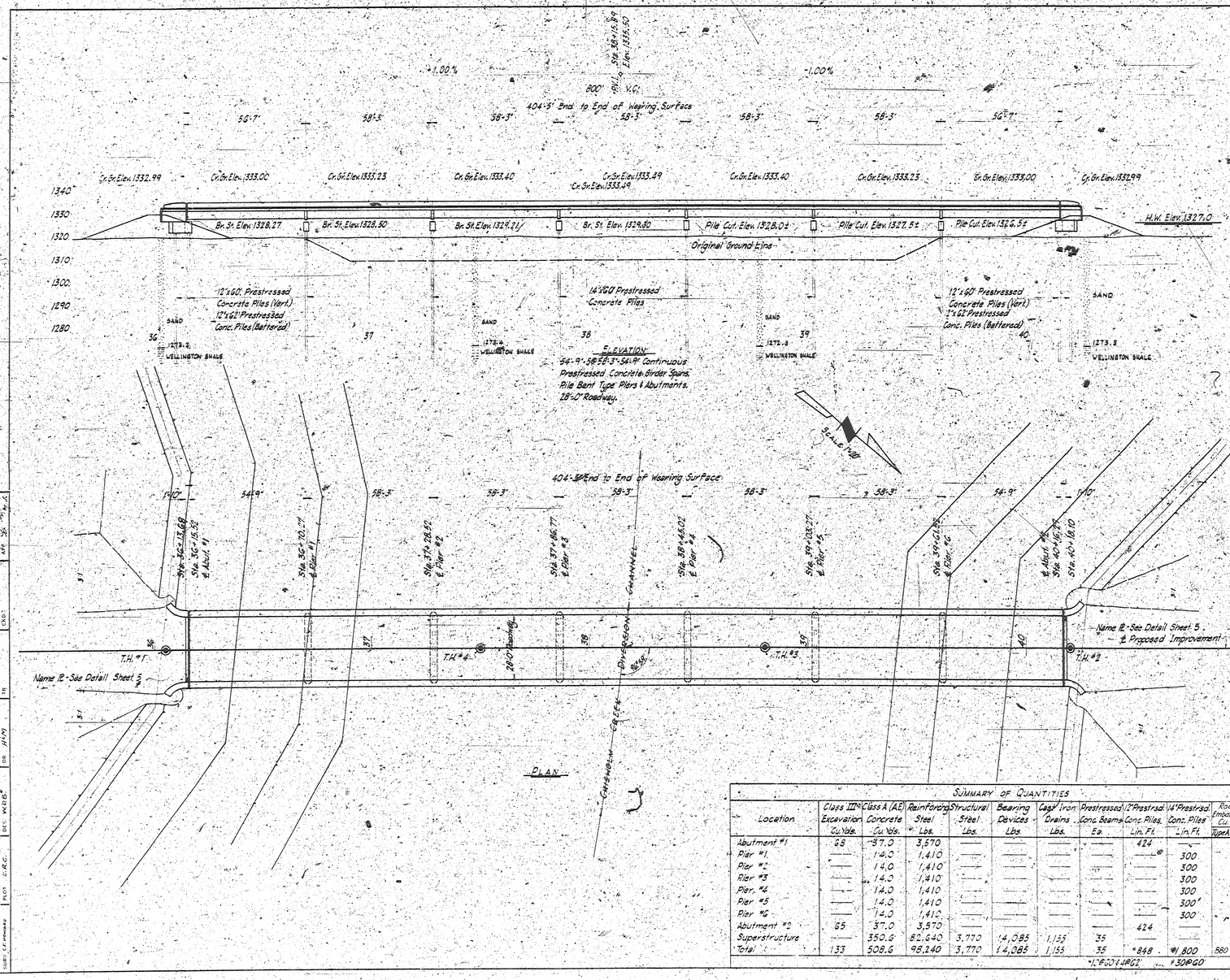
1540
1530
1520
1510
1500
1490
1480

1540
1530
1520
1510
1500
1490
1480

+8.89 P.C. 1331.50
+28.89 P.C.C. 1335.50
+45.89 P.C.C.

1331.50
1332.25
1332.92
1333.62
1334.33
1335.05
1335.50
1335.50
1335.49
1335.41
1335.28
1335.08
1334.81
1334.49
1334.11
1333.66
1333.50

112-A-2



Temporary B.M. E-12, Elev. 1301.73C
Mark chiseled ▫ in 4"x4" Concrete post. 3' N.W. center Section 31.

GENERAL NOTES:

DIKE EMBANKMENT: Embankments at the abutments shall be completed by Sedgwick County as shown prior to driving abutment piles. The channel will be excavated as shown after the bridge is completed.

BRIDGE EXCAVATION: All excavation shall be Class III. See Bridge Excavation Sheet for limits of pay excavation.

SOUNDINGS: Sounding information shown on this sheet is from notes taken in the field and represents the best information available to the State Highway Commission of Kansas.

PILING: All piles shall be prestressed concrete piles as described on Sheet 6. All piles shall be driven to the penetration shown unless in the opinion of the Engineer such penetration cannot be secured without injury to the piles. All abutment piles shall be driven to a minimum computed bearing value of 37 tons per pile. All pier piles shall be driven to a minimum computed value of 47 tons per pile.

CONCRETE: Class A(AE) concrete shall be used thruout, except for prestressed concrete beams and piles.

REINFORCING STEEL: All reinforcing steel shall conform to A.S.T.M. Specification A 305-49.

DESIGN: Design Loading: H 10-S 16-44 A.A.S.H.O. Specifications (1953 Edition).

Unit Stresses: fc = 1,200 p.s.i. Class A(AE)
" fs = 20,000 p.s.i. Reinforcing
" fs = 18,000 p.s.i. Structural

SUMMARY OF QUANTITIES

Location	Class III Excavation Cu.Yds.	Class A (AE) Concrete Cu.Yds.	Reinforcing Steel Lbs.	Structural Steel Lbs.	Bearing Devices Lbs.	Cast Iron Drains Lbs.	Prestressed Conc. Beams Ea.	12" Prestrsd. Conc. Piles Lin. Ft.	14" Prestrsd. Conc. Piles Lin. Ft.	Rock Embankment Cu. Yds. Type A	Type B
Abutment #1	68	37.0	3,570	—	—	—	—	424	—		
Pier #1	—	14.0	1,410	—	—	—	—	—	300		
Pier #2	—	14.0	1,410	—	—	—	—	—	300		
Pier #3	—	14.0	1,410	—	—	—	—	—	300		
Pier #4	—	14.0	1,410	—	—	—	—	—	300		
Pier #5	—	14.0	1,410	—	—	—	—	—	300		
Pier #6	—	14.0	1,410	—	—	—	—	—	300		
Abutment #2	65	37.0	3,570	—	—	—	—	424	—		
Superstructure	—	350.6	82,640	3,770	14,085	1,155	35				
Total	133	508.6	98,240	3,770	14,085	1,155	35	848	1,800	880	1760

*1,800 + 424 = 2,224 LIN. FT. OF 12" PRESTRESSED CONC. PILES
*300 + 300 = 600 LIN. FT. OF 14" PRESTRESSED CONC. PILES

3			
2			
1			

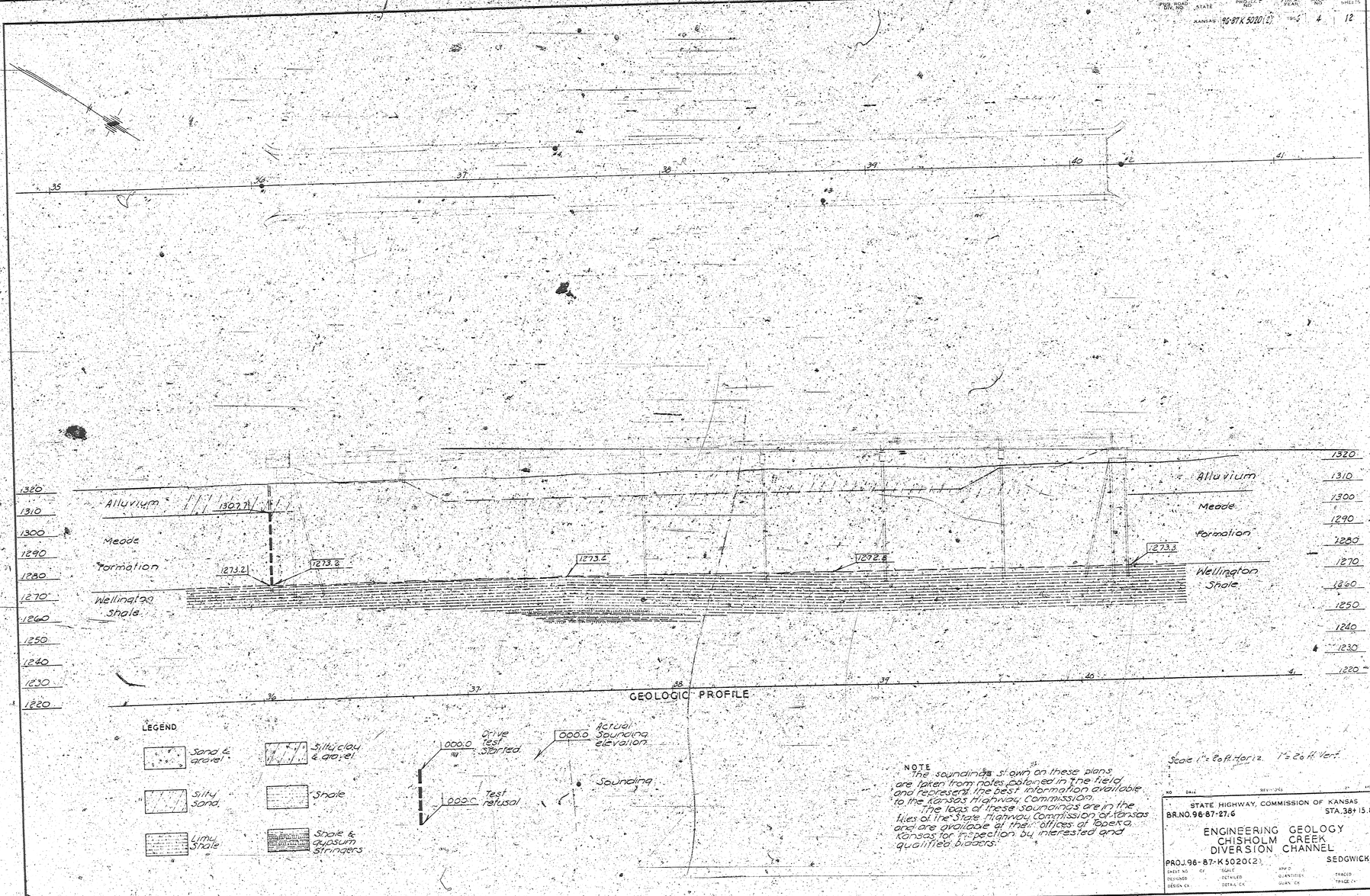
STATE HIGHWAY COMMISSION OF KANSAS
BRIDGE NO. 96-37-27.6 STA. 38+15.89
CONSTRUCTION LAYOUT
CHISHOLM CREEK DIVERSION CHANNEL
96-87 K 5020 (2) SEDGWICK CO.

R.S. DELAMATER
CONSULTING ENGINEER
WICHITA KANSAS

DATE November, 1955
SCALE 1" = 20'
DWG. NO. 112-A-3

SURV. Estimated | PLOT | C.R.C. | DES. WEBB | DR. JMY | TR | CKD? | 4th Sig. C.

FED. ROAD DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
	KANSAS	96-87 K 5020(2)	19	4	12



NOTE
The soundings shown on these plans are taken from notes obtained in the field and represent the best information available to the Kansas Highway Commission.
The logs of these soundings are in the files of the State Highway Commission of Kansas and are available at their offices at Topeka, Kansas for inspection by interested and qualified bidders.

Scale 1"=20 ft. Horiz. 1"=20 ft. Vert.

NO.	DATE	REVISIONS	BY	APP'D

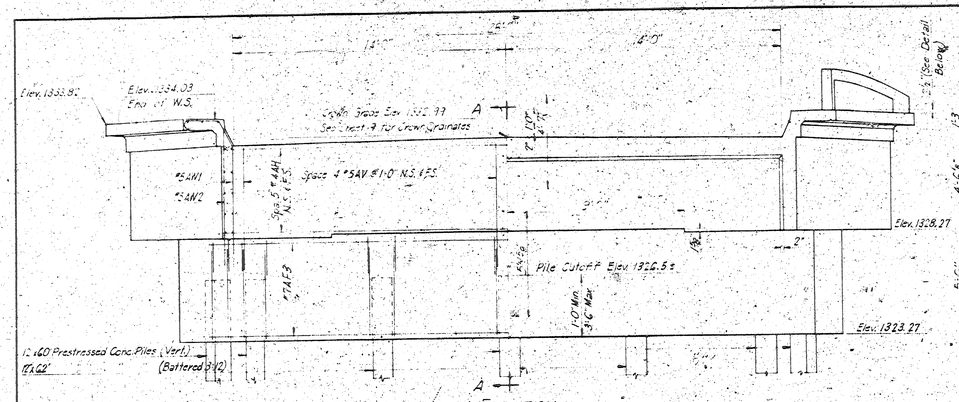
STATE HIGHWAY COMMISSION OF KANSAS
BR.NO.96-87-27.6 STA. 38+15.89

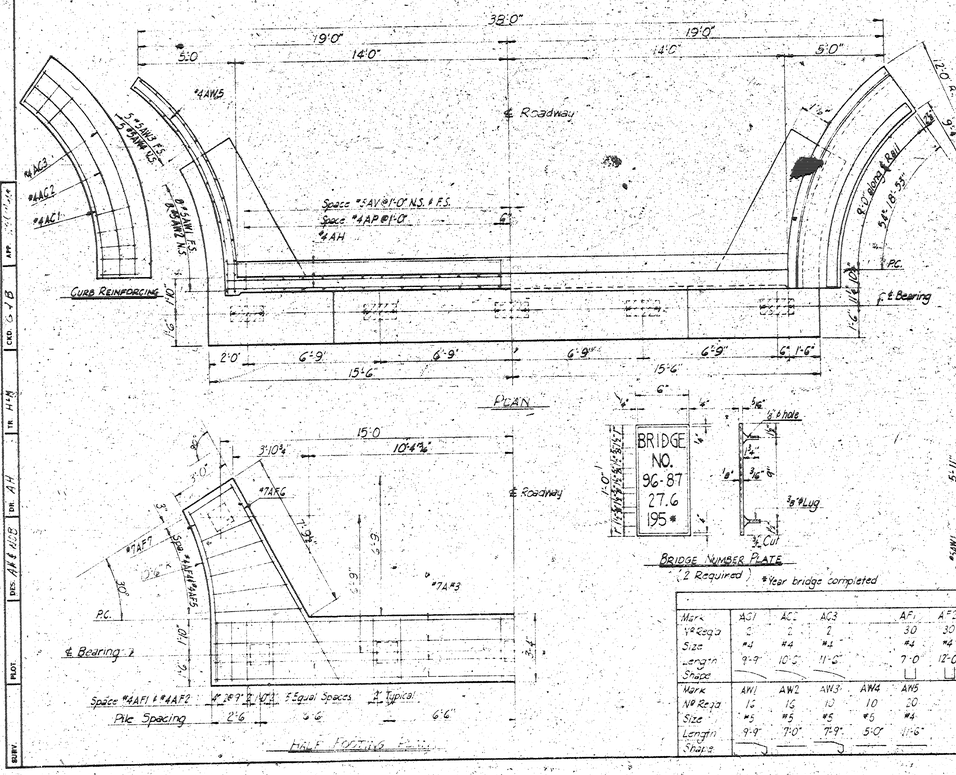
ENGINEERING GEOLOGY
CHISHOLM CREEK
DIVERSION CHANNEL

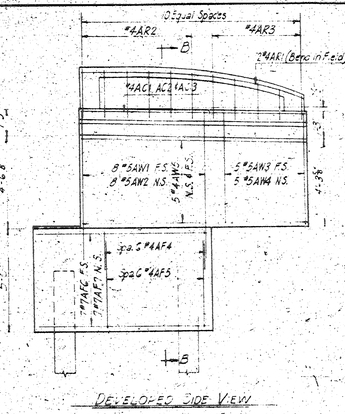
PROJ.96-87-K5020(2) SEDGWICK CO.

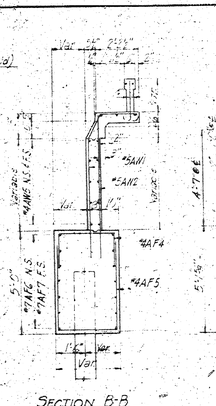
SHEET NO.	OF	SCALE	APP'D
DESIGNED		DETAILED	QUANTITIES
DESIGN CK.		DETAIL CK.	QUAN. CK.
			TRACED
			TRACE CK.

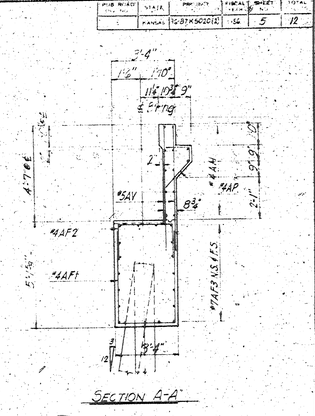
PUB. ROAD	STATE	PROJECT	FISCAL YEAR	SHEET NO.	TOTAL
	KANSAS	96-87 K 5020(2)	'54	5	12

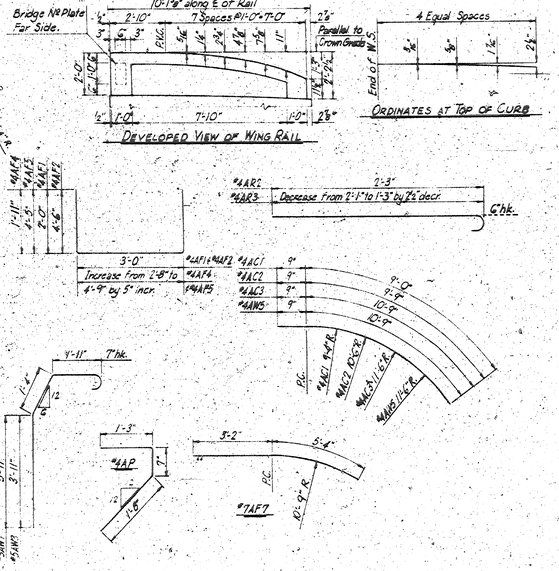












Notes:

Class AA(E) Concrete shall be used thruout except in Prestressed Piles.

Bevel all exposed edges with a ¾" triangular molding unless otherwise noted. Bevel all exposed edges of wing railing with a 1½" triangular molding.

All dimensions shown relative to placement of reinforcing steel are to ℄ of bars unless otherwise noted. All dimensions shown in the bending diagrams are out to out of bars.

All piles shall be Prestressed Concrete Piles, Square, as described on Sheet 6.

Price bid per foot for piles shall be the total cost per foot of pile in place, including driving, concrete and reinforcing steel.

Summary of Abutment Quantities

Mark	AG1	AC1	AC3	AF1	AF2	AF3	AF4	AF5	AF6	AF7	AH	AP	AR1	AR2	AR3	AV
No Reqd	2	2	2	30	30	18	12	12	14	14	12	28	4	24	20	56
Size	#3	#4	#3	#3	#4	#7	#4	#4	#7	#7	#4	#4	#4	#4	#4	#5
Length	9'-9"	10'-3"	11'-0"	7'-0"	12'-0"	30'-5"	*	*	11'-0"	8'-6"	24'-0"	5'-2"	9'-9"	2'-9"	*	60"
Shape																

Mark	AW1	AW2	AW3	AW4	AW5
No Reqd	16	16	10	10	20
Size	#5	#5	#5	#5	#4
Length	9'-9"	7'-10"	7'-9"	5'-0"	11'-6"
Shape					

* See Bending Diagrams

Class AA(E) Concrete	37.0 Cu. Yds.
Reinforcing Steel	3,570 Lbs.
Prestressed Concrete Piles	424 Lin. Ft.

REV	BY	DATE	DESCRIPTION
3			
2			
1			

STATE HIGHWAY COMMISSION OF KANSAS
BRIDGE NO. 96-87-27.6 STA. 38+15.89

ABUTMENT DETAILS

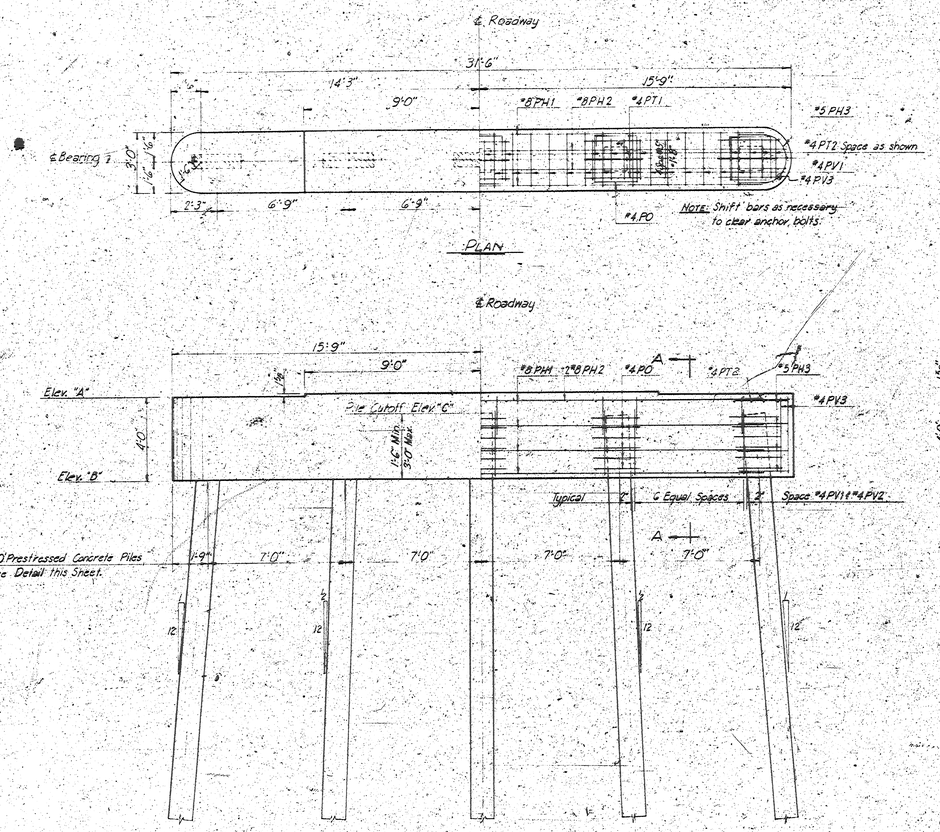
CHISHOLM CREEK DIVERSION CHANNEL
96-87 K 5020(2) SEDGWICK CO.

R. S. DELAMATER
CONSULTING ENGINEER
WICHITA, KANSAS.

DATE November, 1954
SCALE —
DWG. NO. 112-A-5

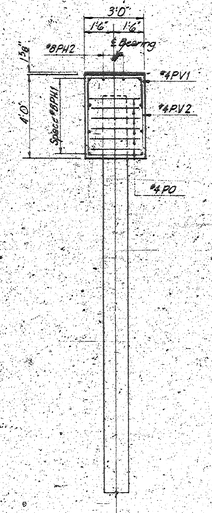
DES. A.H. & H.C.B. DR. A.H. TR. H.M. CKD. G.V.B. APP. PLOT SURV.

PUB. HWAY NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
	KANSAS	96-87 K 5020(2)	56	6	12



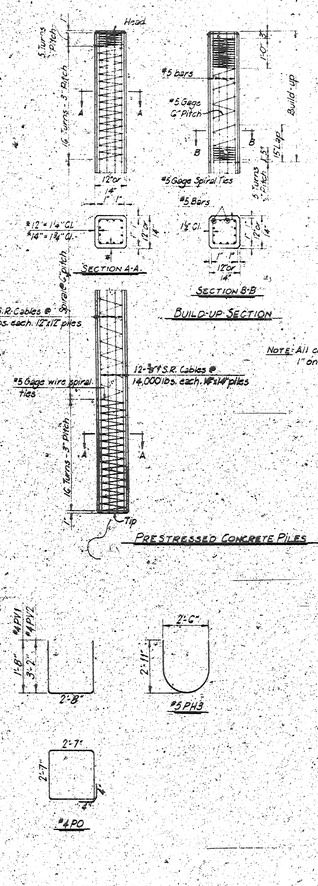
PLAN

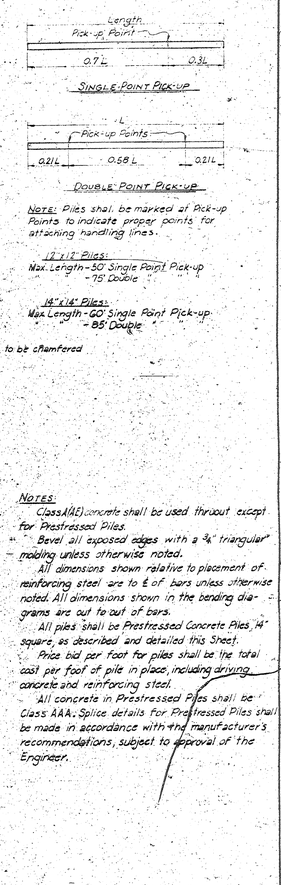
ELEVATION



SECTION A-A

NOTE: If additional driving is required, use ℄ pitch as shown.





NOTE: Piles shall be marked at Pick-up Points to indicate proper points for attaching handling lines.

12" x 12" Piles:
Max. Length - 50' Single Point Pick-up
- 75' Double "

14" x 14" Piles:
Max. Length - 60' Single Point Pick-up
- 85' Double "

NOTE: All corners to be chamfered 1" on piles.

NOTES:

Class AA(E) concrete shall be used thruout except for Prestressed Piles.

Bevel all exposed edges with a ¾" triangular molding unless otherwise noted.

All dimensions shown relative to placement of reinforcing steel are to ℄ of bars unless otherwise noted. All dimensions shown in the bending diagrams are out to out of bars.

All piles shall be Prestressed Concrete Piles, 14" square, as described and detailed this Sheet.

Price bid per foot for piles shall be the total cost per foot of pile in place, including driving, concrete and reinforcing steel.

All concrete in Prestressed Piles shall be Class AAA. Splice details for Prestressed Piles shall be made in accordance with the manufacturer's recommendations, subject to approval of the Engineer.

ELEVATION TABLE

Pier No.	Elev. "A"	Elev. "B"	Elev. "C"
1	1328.50	1324.50	1327.5±
2	1329.21	1325.21	1328.0±
3	1329.30	1325.30	1328.0±
4	1329.30	1325.30	1328.0±
5	1329.21	1325.21	1328.0±
6	1328.50	1324.50	1327.5±

SUMMARY OF PIER QUANTITIES

Mark	PH1	PH2	PH3	PO	PV1	PV2	PV3	PT1	PT2
No. Reqd	6	2	8	30	28	28	6	15	20
Size	#8	#8	#5	#4	#4	#4	#4	#4	#4
Length	28'-6"	31'-0"	7'-3"	11'-0"	5'-0"	9'-0"	3'-0"	3'-0"	2'-0"
Shape									

Class A(AE) Concrete 14.0 Cu Yds.
Reinforcing Steel 1,410 Lbs.
Prestressed Concrete Piles 300 Lin. Ft.

REV.	BY	DATE	DESCRIPTION
3			
2			
1			

STATE HIGHWAY COMMISSION OF KANSAS.
BRIDGE NO. 96-87-27.6 STA. 38+15.89

PIER DETAILS

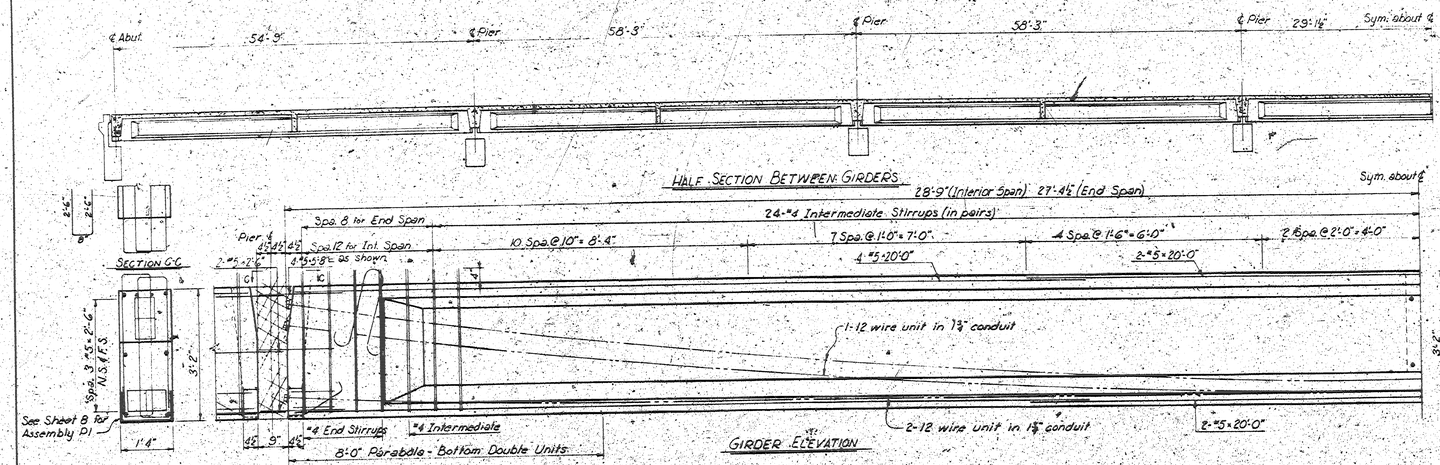
CHISHOLM CREEK DIVERSION CHANNEL
96-87 K 5020(2) SEDGWICK CO.

R. S. DELAMATER
CONSULTING ENGINEER
WICHITA, KANSAS

DATE November, 1956
SCALE
DWG. NO. 112-A-6

APP. J.H.
CKD. G.A.B.
DR. A.J.T.
DES. H.H.M.
QTS. H.D.C.
PLOT
SURV.

PUB. ROAD DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHTS.
7	KANSAS	96-87K5020(2)	1956	7	12



DESIGN NOTES:

All design data pertaining to the prestressed concrete girders is in conformance with Bureau of Public Roads Criteria for Prestressed Concrete Bridges, dated 1954.

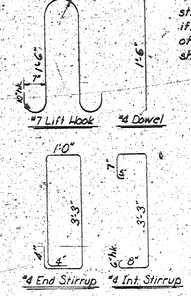
All design data pertaining to the general structure is in conformance with Standard Specifications of the AASHO or the Specifications of the Kansas Highway Commission whichever shall be applicable.

DESIGN LOADING: H-20-S16-44 AASHO. (1953 Edition)

GIRDER CONCRETE: 28 day cylinder = 5,000 psi
@ prestressing = 4,500 psi

PRESTRESSING STEEL: Post Tensioning Units shall use 12-0.25" dia. cold drawn, and stress relieved wires having the following properties: Minimum Ultimate Strength = 240,000 psi
Initial Stress = 168,000 psi
Initial Stress per Wire = 8,230 lbs.

PRESTRESSING STEEL: Pre Tensioning Units shall be ⅜" nominal diameter, 1 wire type, stress relieved having the following properties:
Minimum Ultimate Strength = 250,000 psi
Initial Stress = 175,000 psi
Initial Stress per Strand = 14,000 lbs.



BENDING DIAGRAMS

CONSTRUCTION NOTES:

Girders shall be erected on the bearing devices with temporary blocking under ends until bearing devices are welded into permanent position.

The slab concrete shall not be poured until 7 days after diaphragms at the supports have been poured.

*NOTE: For information to bidder only, not for bidding purposes. Quantities shown are for Post Tensioned Section.

* APPROXIMATE BEAM QUANTITIES PER EM	UNIT	END SPAN	INT. SPAN
Concrete	cu. yd.	5.2	5.5
Reinforcing (Mild)	lbs.	670	700
Reinforcing (High Strength)	Lin. Ft.	219	230
Weight	Tons	10	11

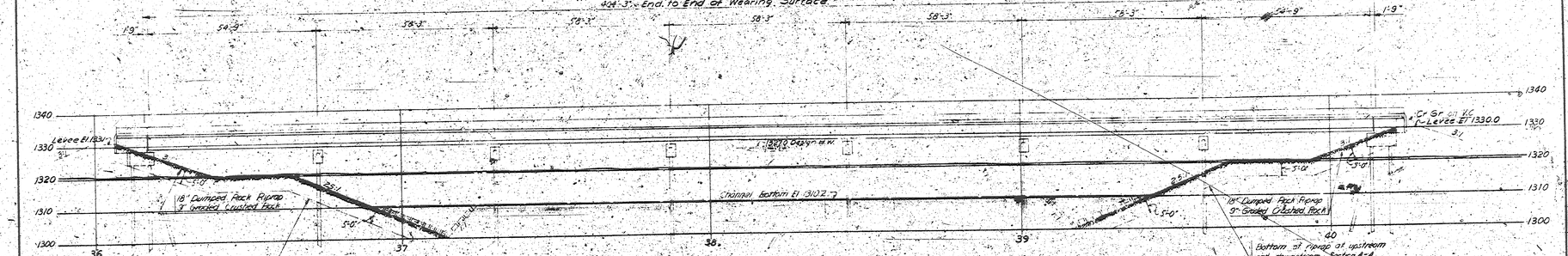
STATE HIGHWAY COMMISSION OF KANSAS
BRIDGE NO. 96-87-27.6 STA. 38 + 15.89
PRESTRESSED BEAM DETAILS
CHISHOLM CREEK DIVERSION CHANNEL
96-87 K 5020(2) SEDGWICK CO.

R. S. DELAMATER CONSULTING ENGINEER WICHITA, KANSAS	DATE November, 1956
	SCALE: — DWG. NO. 112-A-7

SURV. PLOT: DES. W.D.B. DR. K.H.H. CKD. A.M. SUBM. J.W.H.

PUB ROAD DIV NO	STATE	PROJECT NO	FISCAL YEAR	SHEET NO	TOTAL SHEETS
5	KANSAS	36-87-1520C(1)	1956	11A	12

404'-3" End to End of Wearing Surface



ELEVATION

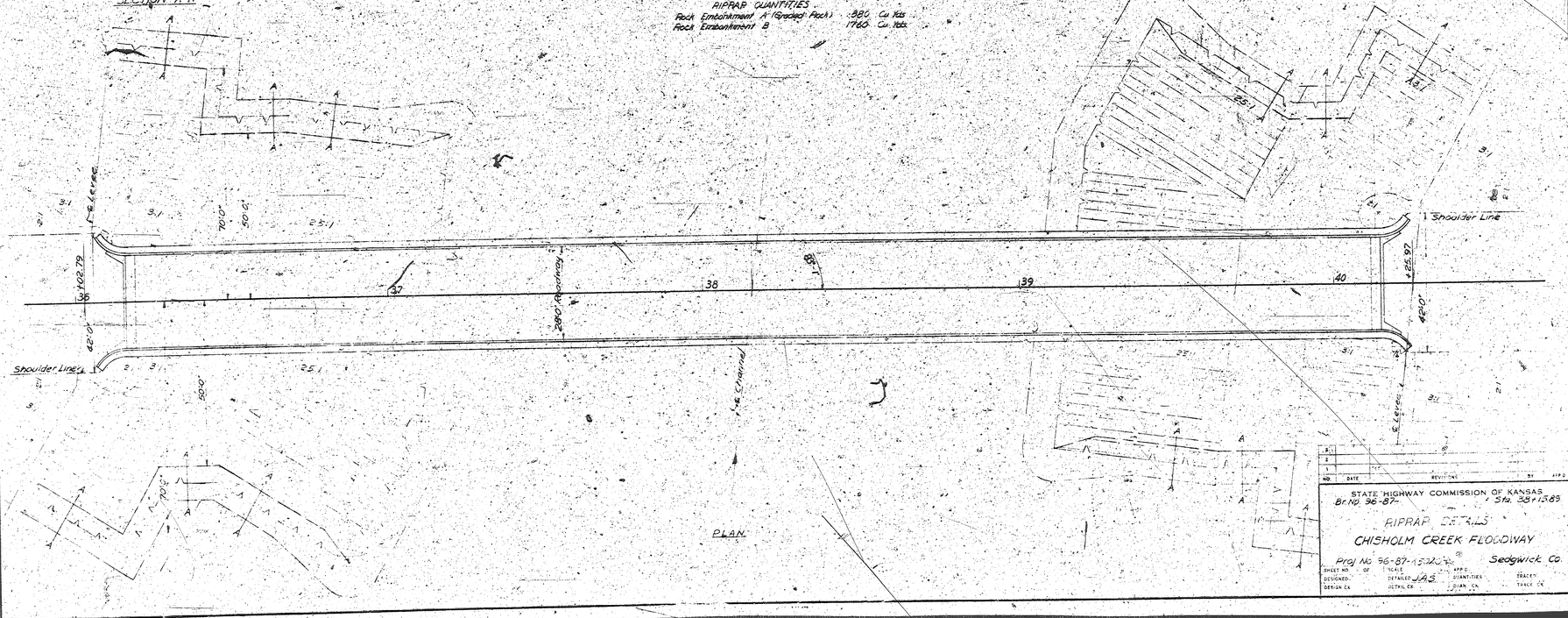
54'-9"-58@3'-54'-9" East Pier (typ.)
Concrete Girder Spans Pile Bent Type
Piers & Abutments. 28'-0" Roadway

Compacted backfill in dry trenches or sand placed in water in wet trenches

SECTION A-A

RIPRAP QUANTITIES

Rock Embankment A (Graded Rock)	380 Cu Yds
Rock Embankment B	1760 Cu Yds



PLAN

NO	DATE	REVISIONS	BY	APP'D
3				
2				
1				

STATE HIGHWAY COMMISSION OF KANSAS
Br. No. 36-87- Sta. 38+1383

RIPRAP DETAILS

CHISHOLM CREEK FLOODWAY

Proj. No. 36-87-1520(1) Sedgwick Co.

SHEET NO.	OF	TRACED	APP'D
DESIGNED		DETAILED JAS.	QUANTITIES
DESIGN CK.		DETAIL CK.	QUAN. CK.
			TRACED
			TRACE CK.