

MINNESOTA DEPARTMENT OF TRANSPORTATION

ANOKA COUNTY

CONSTRUCTION PLAN FOR Grading, Base, Bituminous Surfacing & Arch Culvert Construction
 (221st Ave. NE.)
 LOCATED ON County Road 74 BETWEEN Minn. State Highway 65 AND Van Buren St. NE. (Geographic Description)
 FROM 1050 West of NE Cor. Sec. 7-33-23 TO 300' East of NE Cor. Sec. 7-33-23 (Legal Description)

COUNTY PROJECT NO. 88-23-74 STATE AID PROJ. NO. _____
 GROSS LENGTH 1350 FEET 0.256 MILES GROSS LENGTH _____ FEET _____ MILES
 BRIDGES-LENGTH _____ FEET _____ MILES BRIDGES-LENGTH _____ FEET _____ MILES
 EXCEPTIONS-LENGTH _____ FEET _____ MILES EXCEPTIONS-LENGTH _____ FEET _____ MILES
 NET LENGTH 1350 FEET 0.256 MILES NET LENGTH _____ FEET _____ MILES

MINN. PROJ. NO. _____
 MINN. PROJ. NO. _____

GOVERNING SPECIFICATIONS

THE 1988 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION" SHALL GOVERN.

INDEX

SHEET NO.	TITLE SHEET
1	ESTIMATED QUANTITIES
2	TYPICAL SECTION & EROSION CONTROL
3	BRIDGE CONSTRUCTION PLAN & PROFILE
4	CROSS SECTIONS
5	TRAFFIC CONTROL & DETOURS
6,7,8 & 9	
10 & 11	

THIS PLAN CONTAINS 11 SHEETS

DESIGN DESIGNATION

ΣN18 ₂₀	167,000
R Value	50
ADT (1989)	1439
Proj. ADT (2009)	2442
Proj. HCADT (2009)	203
Soil Factor	A-3
9 Ton Design	
Shoulder Width	8'

Design Speed 55 MPH
 Based on Stopping Sight Distance
 Height of eye 3.5' Height of object 0.5' MN D.O.T. Table 2-5.03B
 Design Speed not achieved at:

STA _____	TO STA _____	MPH _____
STA _____	TO STA _____	MPH _____
STA _____	TO STA _____	MPH _____

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A FULLY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

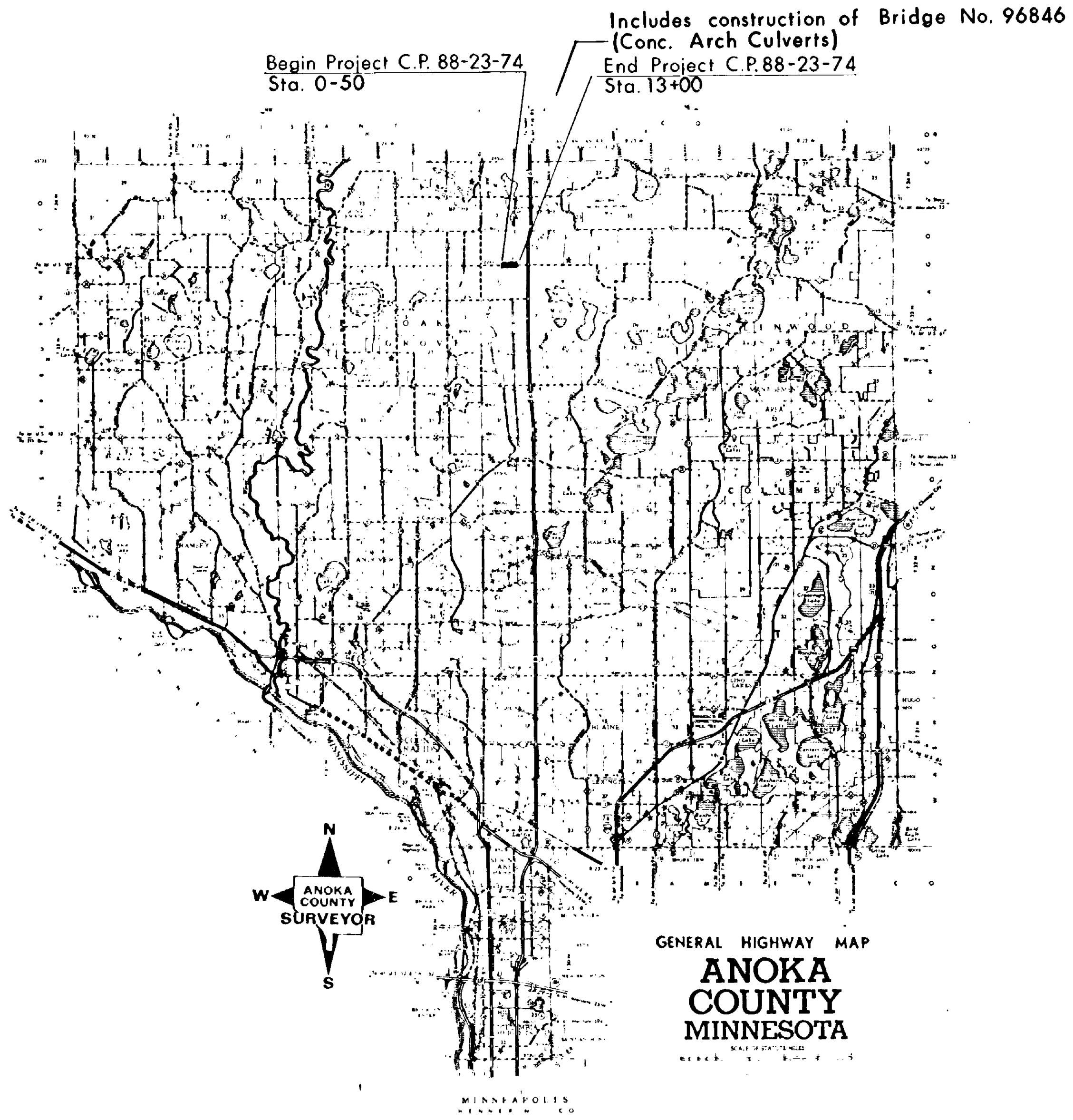
DATE 9/15/90 REG. NO. 6549 ENGR. *Ronald L. Lund*
 COUNTY _____
 DATE 2/13/90 REG. NO. 15100 ENGR. *Robert H. Juvonen*
 DESIGN FIRM: Comstock & Davis, Inc.

PLANS SYMBOLS

- STATE LINE
- COUNTY LINE
- TOWNSHIP OR RANGE LINE
- SECTION LINE
- QUARTER LINE
- SIXTEENTH LINE
- RIGHT OF WAY LINE
- SLOPE EASEMENT
- PRESENT RIGHT OF WAY LINE
- CONTROL OF ACCESS LINE
- PROPERTY LINE EXCEPT LAND LINES
- VACATED PLATTED PROPERTY
- CORPORATE OR CITY LIMITS
- TRUNK HIGHWAY CENTER LINE
- RETAINING WALL
- RAILROAD
- RAILROAD RIGHT OF WAY LINE
- RIVER OR CREEK
- DRY RUN
- DRAINAGE DITCH
- DRAIN TIE
- CULVERT
- DRIVE ALLEY
- GUARD RAIL
- BARBED WIRE FENCE
- WOVEN WIRE FENCE
- CHAIN LINK FENCE
- RAILROAD SNOW FENCE
- STONE WALL OR FENCE
- MEDIAN
- RAILROAD CROSSING SIGN
- RAILROAD CROSSING BELL
- ELECTRIC WARNING SIGN
- CROSSING GATE
- MEANER CORNER
- SPRINGS
- MARSH
- TIMBER
- ORCHARD
- BRUSH
- NURSERY
- CATCH BASIN
- FIRE HYDRANT
- CATTLE GUARD
- OVERPASS HIGHWAY OVER
- UNDERPASS HIGHWAY UNDER
- BREAK
- BUILDING ONE STORY FRAME
- F FRAME C CONCRETE
- S STONE T TILE
- B BRICK ST STUCCO
- IRON PIPE OR RAIL
- MONUMENT STONE CONCRETE OR METAL
- WOODEN HUB
- GRAVEL PIT
- SAND PIT
- BORROW PIT
- ROCK QUARRY

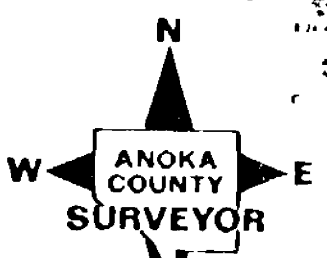
UTILITIES SYMBOLS

- POWER POLE LINE
- TELEPHONE OR TELEGRAPH POLE LINE
- JOINT TELEPHONE AND POWER ON POWER POLES
- ON TELEPHONE POLES
- ANCHOR
- STEEL TOWER
- STREET LIGHT
- PEDESTAL TELEPHONE CABLE TERMINAL
- GAS MAIN
- WATER MAIN
- CONCAT
- TELEPHONE CABLE IN CONDUIT
- ELECTRIC CABLE IN CONDUIT
- TELEPHONE MANHOLE
- ELECTRIC MANHOLE
- BURIED TELEPHONE CABLE
- BURIED ELECTRIC CABLE
- AERIAL TELEPHONE CABLE
- SEWER SANITARY OR STORM
- SEWER MANHOLE



Begin Project C.P. 88-23-74
 Sta. 0+00

Includes construction of Bridge No. 96846
 (Conc. Arch Culverts)
 End Project C.P. 88-23-74
 Sta. 13+00



GENERAL HIGHWAY MAP
ANOKA COUNTY
MINNESOTA

SCALES

PLAN	50'
PROFILE	5'
INDEX MAP	2.66 mi.
GENERAL LAYOUT	

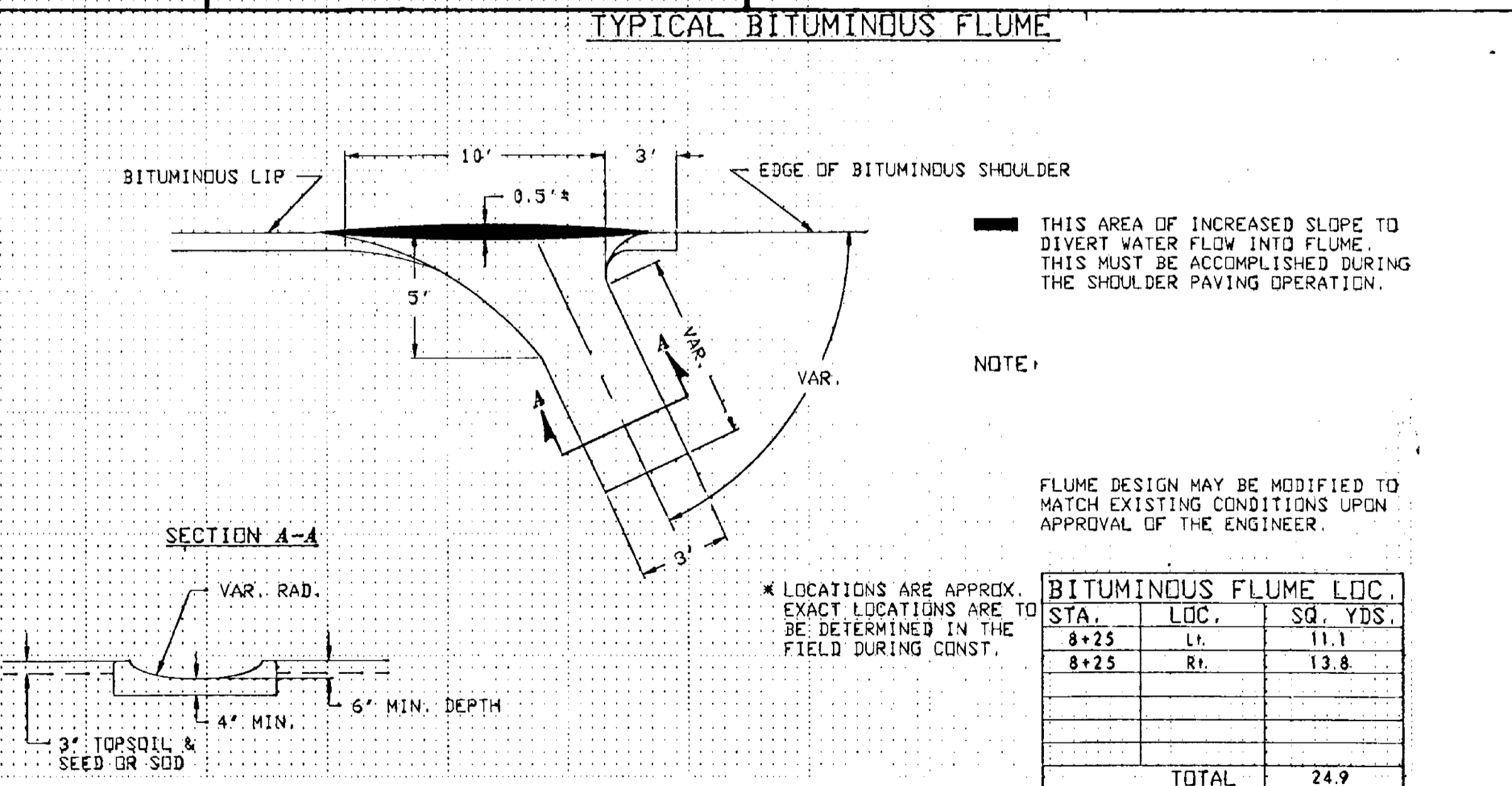
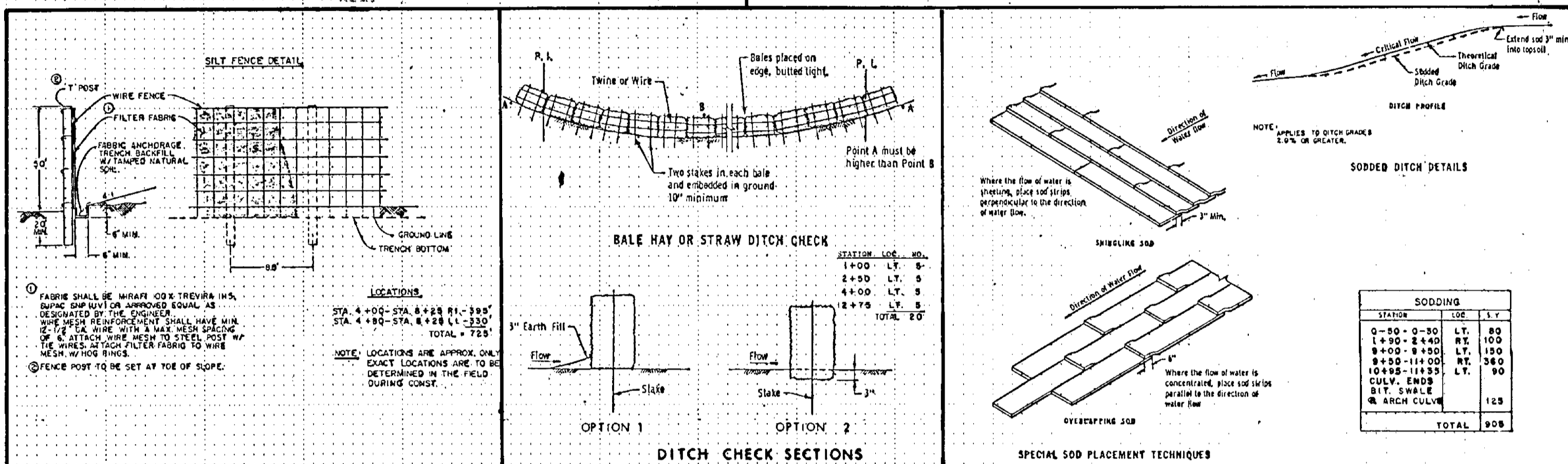
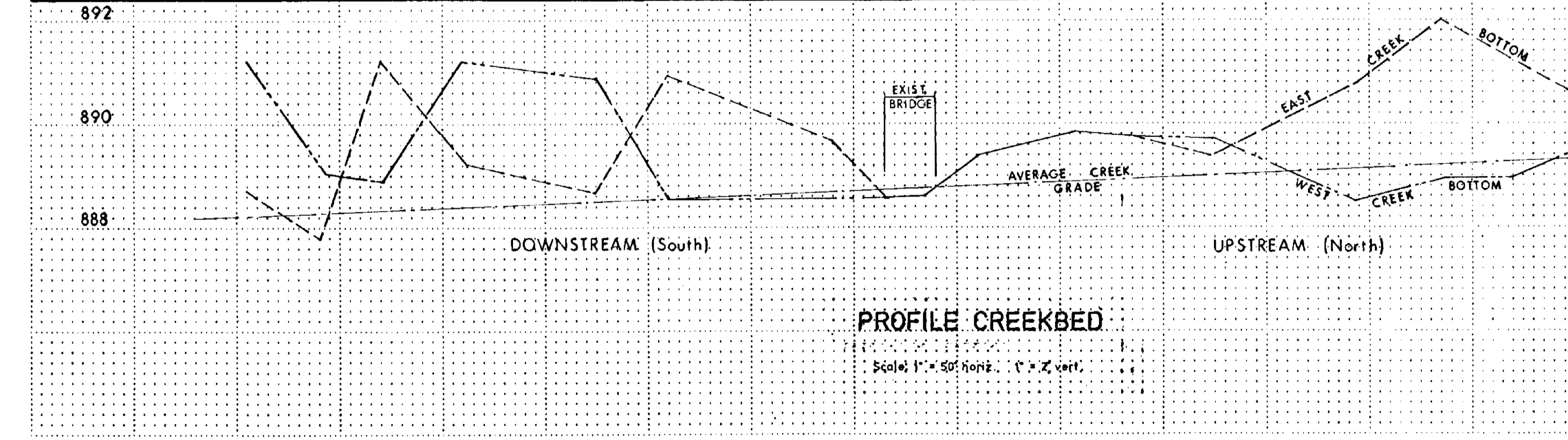
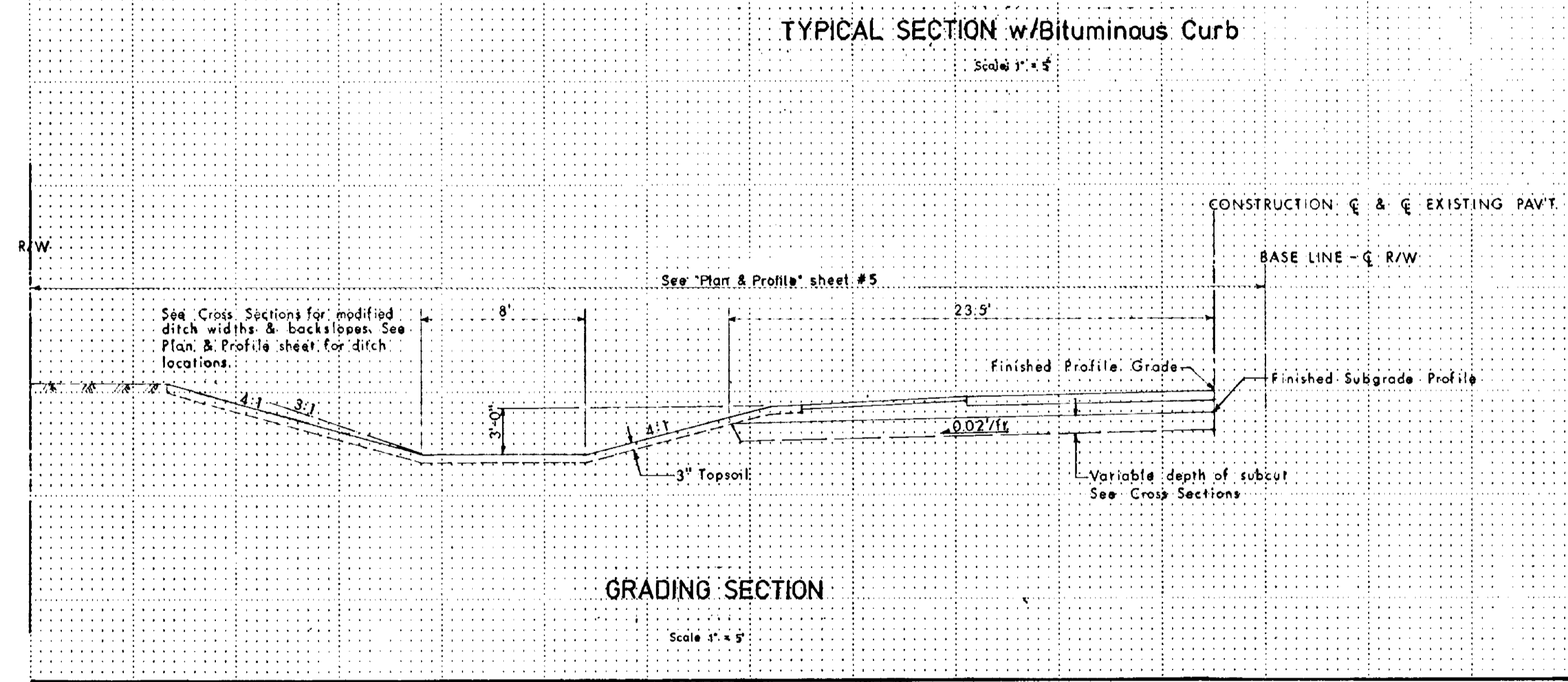
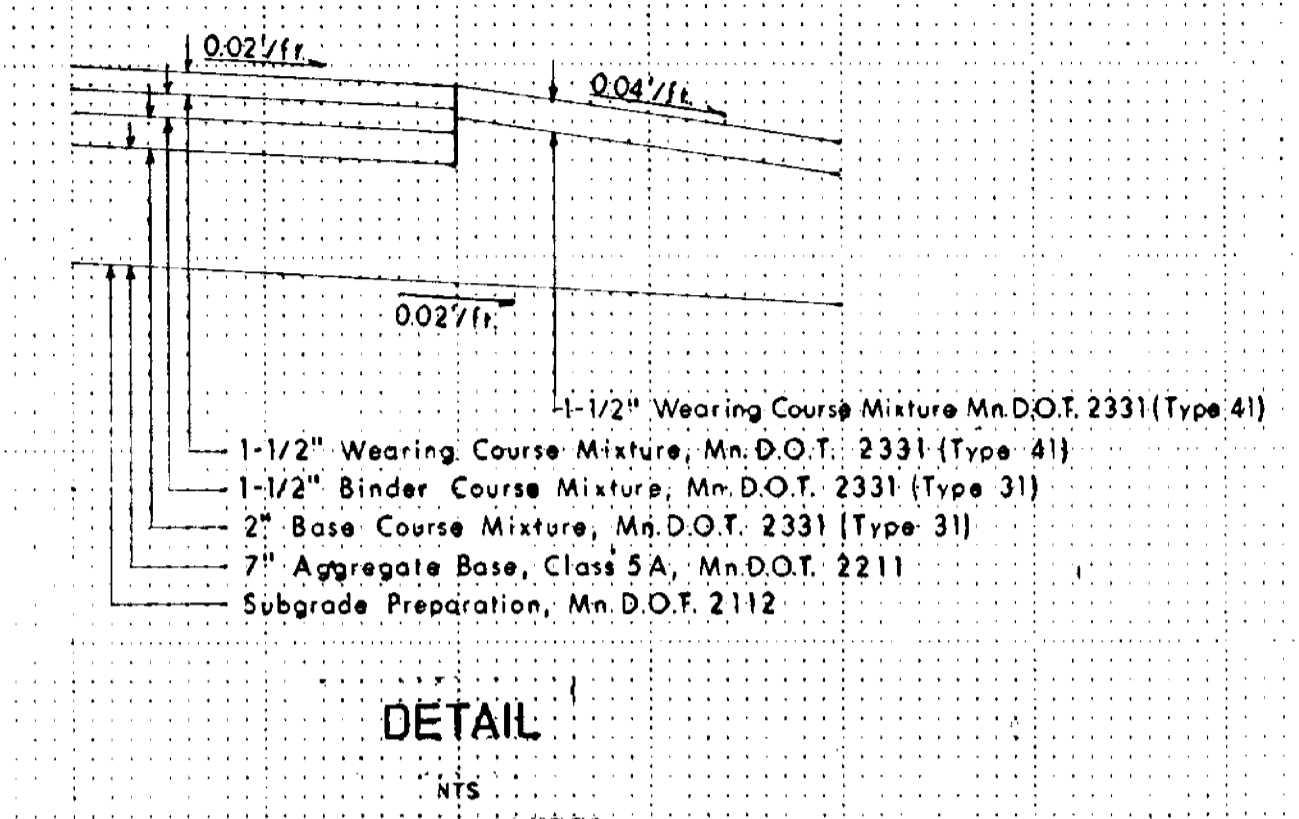
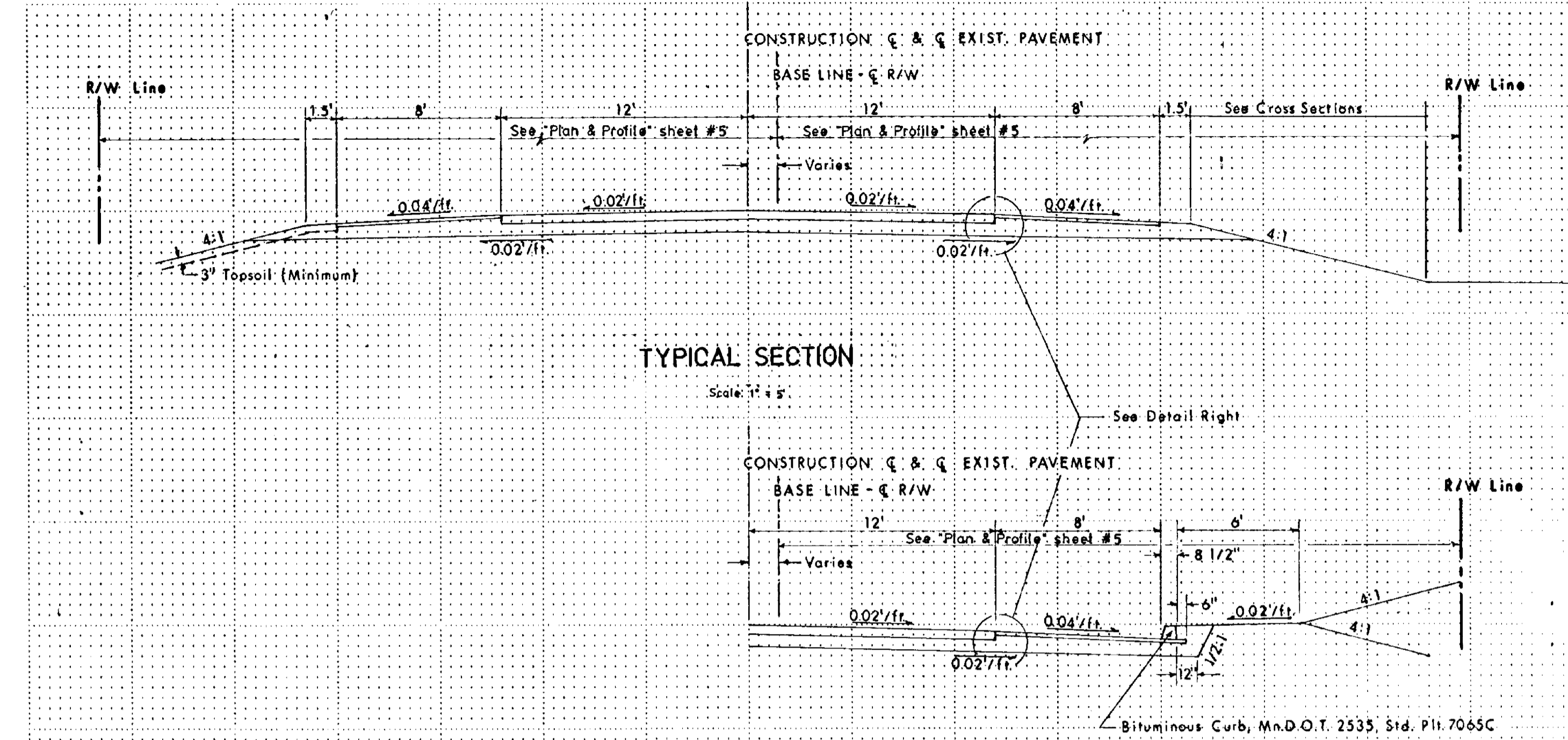
COUNTY PROJECT NO. 88-23-74 SHEET NO. 1 OF 11 SHEETS
 STATE PROJ. NO. _____

ANOKA COUNTY - EAST BETHEL

HYDRAULIC DATA

STREAM	CEDAR CREEK
DRAINAGE AREA	34.5 SQ. MI.
MAXIMUM DISCHARGE OF RECORD	UNKNOWN
MAXIMUM OBSERVED HIGHWATER ELEVATION	UNKNOWN
DESIGN DISCHARGE (100 YEAR FREQUENCY)	680 C.F.P.S.
a) DESIGN HIGHWATER ELEVATION	895.6
b) WATERWAY AREA BELOW ELEVATION 895.6	90.4 SQ. FT.
c) APPROXIMATE CHANNEL BOTTOM ELEVATION	888.9
d) MEAN VELOCITY THROUGH CULVERT	7.95 F.P.S.
e) MEAN VELOCITY IN NATURAL CHANNEL	2.1 F.P.S.
f) STAGE INCREASE/DECREASE VERSUS EXISTING BRIDGE	-0.5 FT.
g) SKEW	10°
h) PIPE CROWN AT CENTER LINE OF ROADWAY	894.9
i) FLOW LINE AT CENTER LINE OF ROADWAY	888.9
j) TAILWATER ELEVATION	894.1

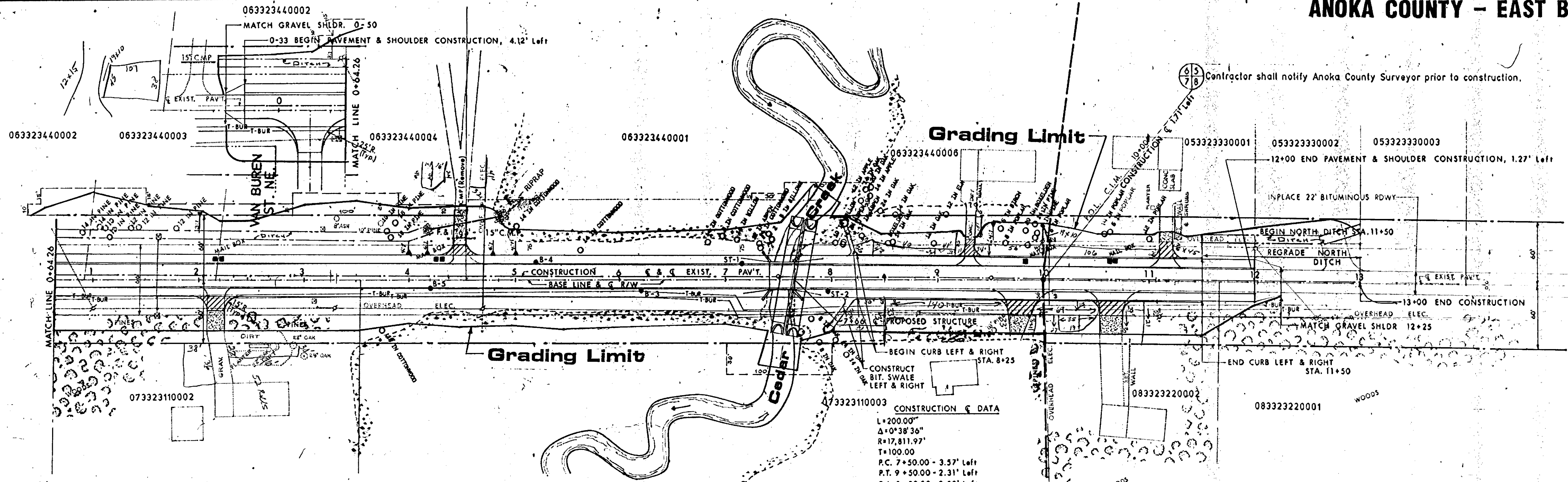
FLOOD FLOW DATA WAS OBTAINED FROM THE CITY OF EAST BETHEL, FLOOD INSURANCE STUDY, PERFORMED BY THE U.S. GEOLOGICAL SURVEY NOVEMBER 1979.



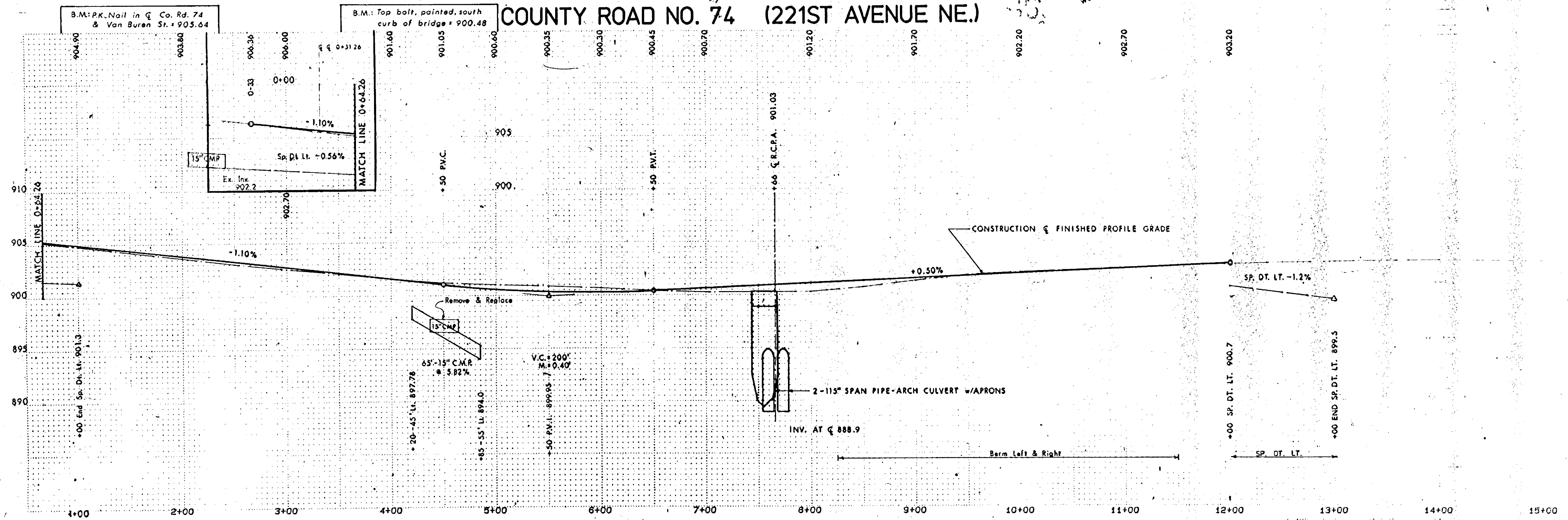
STA.	LOC.	SQ. YDS.
8+25	Lt.	11.1
8+25	Rt.	13.8
TOTAL		24.9

COUNTY PROJECT NO. 88-23-74

<p>I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.</p>				<p>COMSTOCK & DAVIS, INC.</p> <p>CONSULTING ENGINEERS & LAND SURVEYORS</p>		<p>1448 COUNTY ROAD J MINNEAPOLIS, MINNESOTA, 55432 PHONE: 812-784-9348</p>		<p>TYPICAL SECTION & EROSION CONTROL</p>		<p>DATE _____ JOB NUMBER 8912 SHEET 3 OF 11 FILE _____</p>			
FIELD BOOK	PAGE	PROJECT	DESCRIPTION	FILE NO.	DATE	DESCRIPTION	BY	DATE	REG. NO.	DESIGN BY	DRAWN BY	SCALE	INSPECTOR
REFERENCE				REVISIONS									



COUNTY ROAD NO. 74 (221ST AVENUE NE.)



COUNTY PROJECT NO. 88-23-74

12A	56-61				
FIELD BOOK PAGE	PROJECT	DESCRIPTION	FILE NO.	DATE	DESCRIPTION
REFERENCE			REVISIONS		

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DATE _____ REG. NO. _____

COMSTOCK & DAVIS, INC.
 CONSULTING ENGINEERS & LAND SURVEYORS

1448 COUNTY ROAD J
 MINNEAPOLIS, MINNESOTA, 55432
 PHONE: 612-784-9348

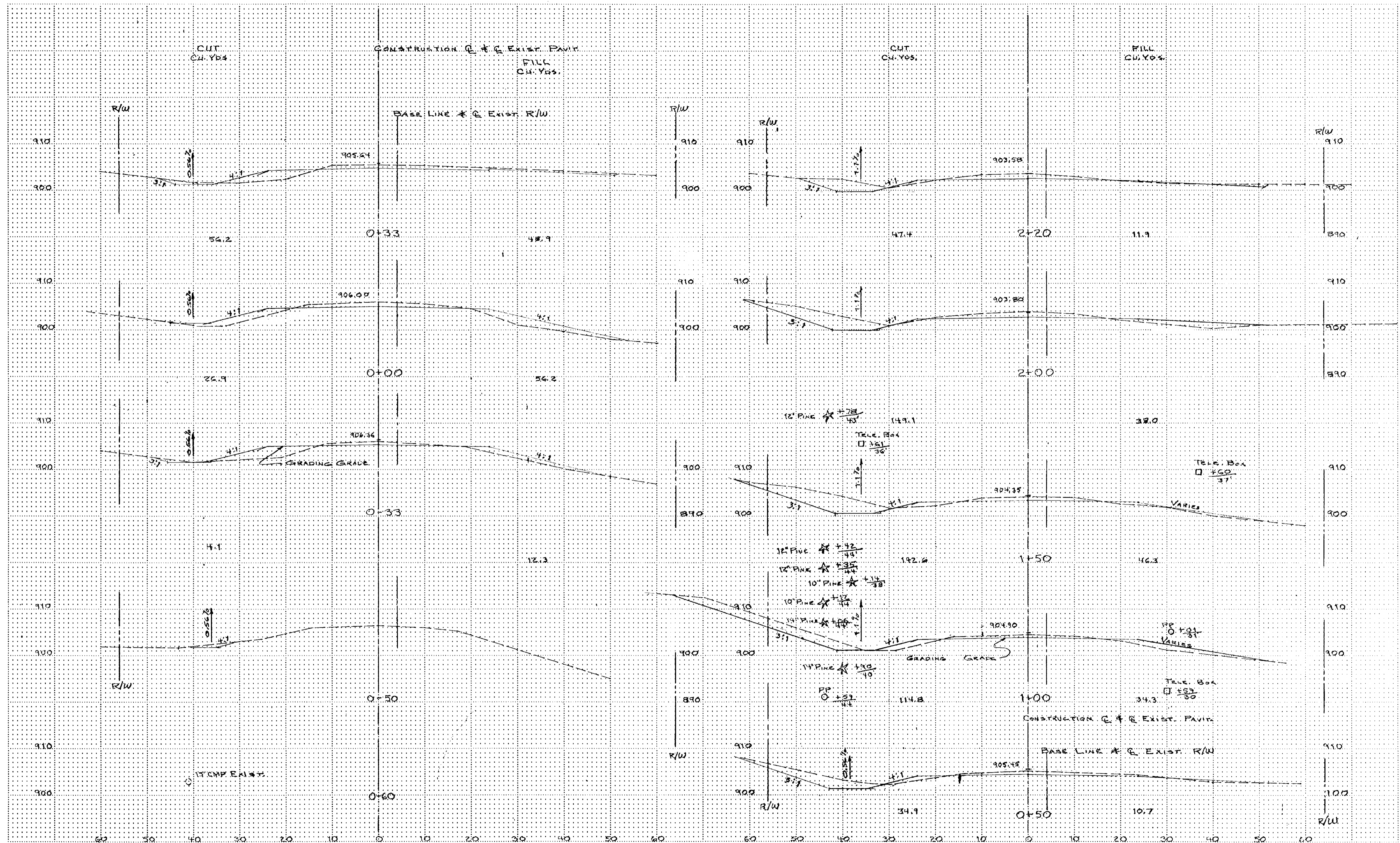
DESIGN BY JGF
 APPROVED BY _____

PLAN & PROFILE

DRAWN BY DJ
 CHECKED BY _____

SCALE 1" = 50' HORIZ. 1" = 5' VERT.
 INSPECTOR _____

DATE _____
 JOB NUMBER 8912
SHEET 6 OF 11
 FILE _____



COUNTY PROJECT NO. 88-23-74

FIELD BOOK	PAGE	PROJECT	DESCRIPTION	FILE NO.	DATE	DESCRIPTION	BY
REFERENCE				REVISIONS			

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

DATE _____ REG. NO. _____

COMSTOCK & DAVIS, INC.
 CONSULTING ENGINEERS & LAND SURVEYORS

1448 COUNTY ROAD J
 MINNEAPOLIS,
 MINNESOTA, 55432
 PHONE: 612-784-9348

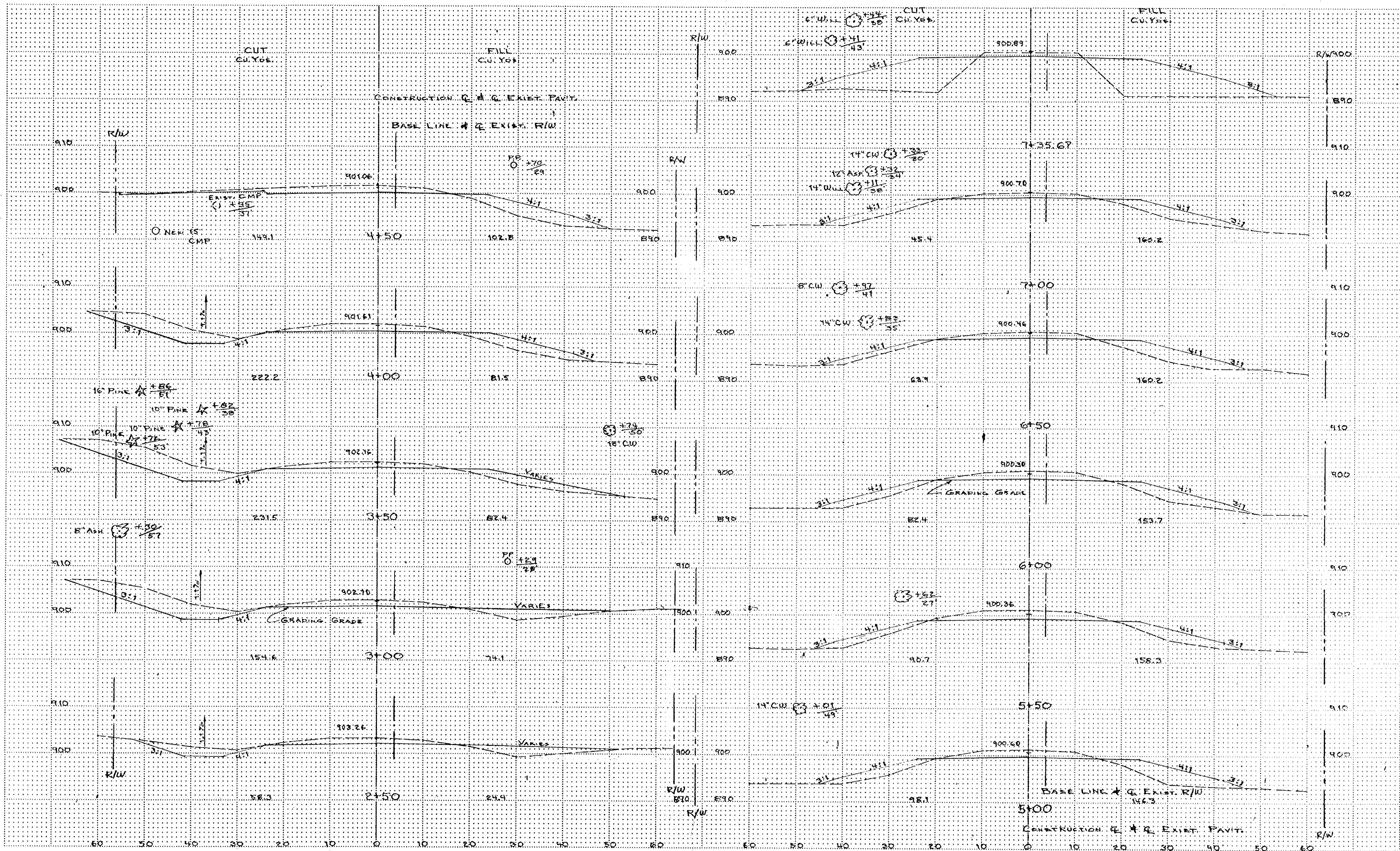
DESIGN BY _____
 APPROVED BY _____

CROSS SECTIONS

DRAWN BY H.P. J.
 CHECKED BY _____

SCALE 1" = 10'
 INSPECTOR _____

DATE _____
 JOB NUMBER 8912
SHEET 8 OF 11
 FILE _____



COUNTY PROJECT NO. 88-23-74

FIELD BOOK	PAGE	PROJECT	DESCRIPTION	FILE NO.	DATE	DESCRIPTION	BY
REFERENCE				REVISIONS			

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

DATE _____ REG. NO. _____

COMSTOCK & DAVIS, INC.
 CONSULTING ENGINEERS & LAND SURVEYORS

1448 COUNTY ROAD J
 MINNEAPOLIS,
 MINNESOTA, 55432
 PHONE: 612-784-8348

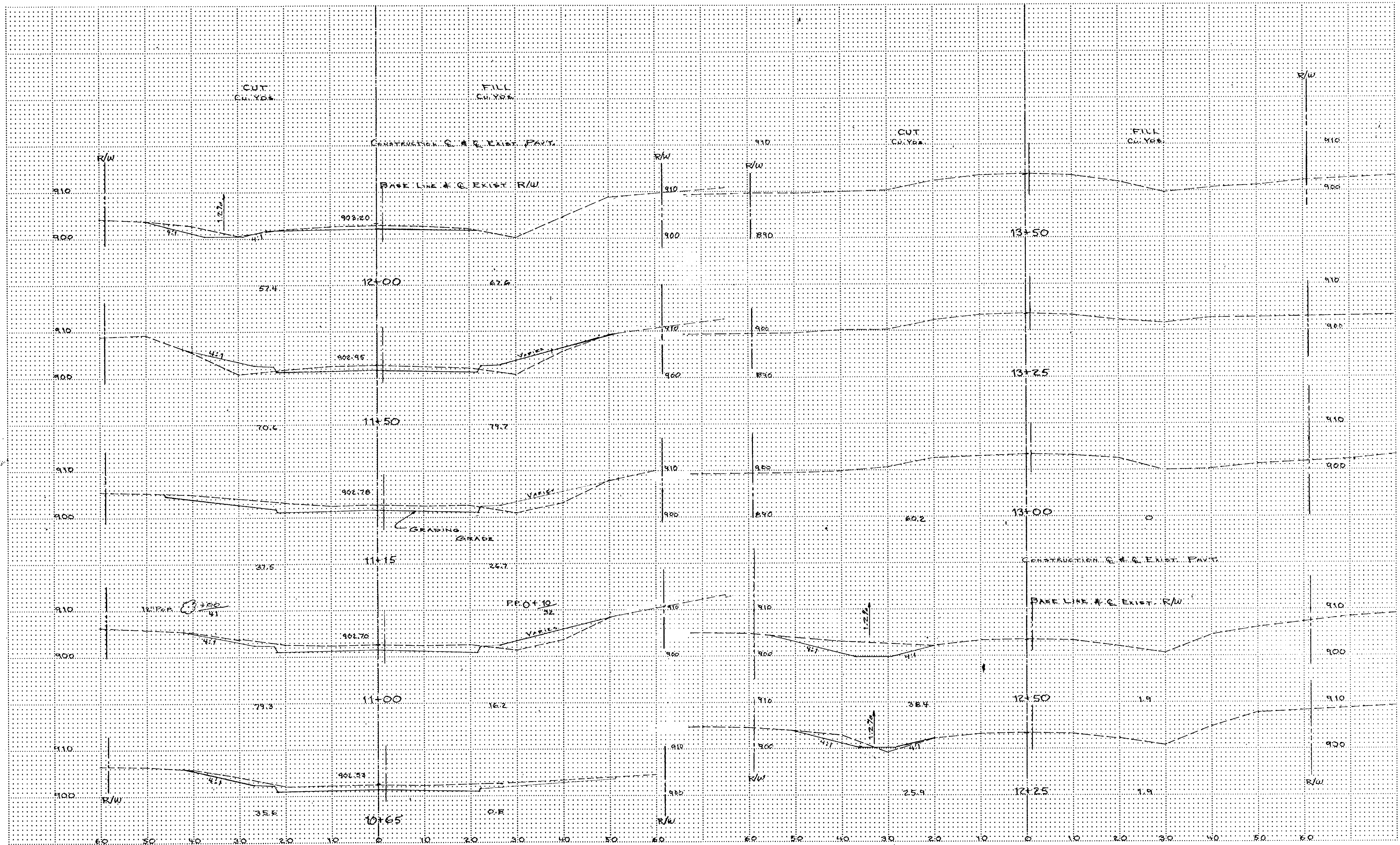
DESIGN BY _____
 APPROVED BY _____

CROSS SECTIONS

DATE _____
 JOB NUMBER 8912
 SHEET 7 OF 11
 FILE _____

SCALE 1" = 10'

DRAWN BY H.P. d
 CHECKED BY _____
 INSPECTOR _____



COUNTY PROJECT NO. 88-23-74

FIELD BOOK	PAGE	PROJECT	DESCRIPTION	FILE NO.	DATE	DESCRIPTION	BY

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

DATE _____ REG. NO. _____

COMSTOCK & DAVIS, INC.
 CONSULTING ENGINEERS & LAND SURVEYORS

1448 COUNTY ROAD J
 MINNEAPOLIS,
 MINNESOTA, 55432
 PHONE: 812-784-8348

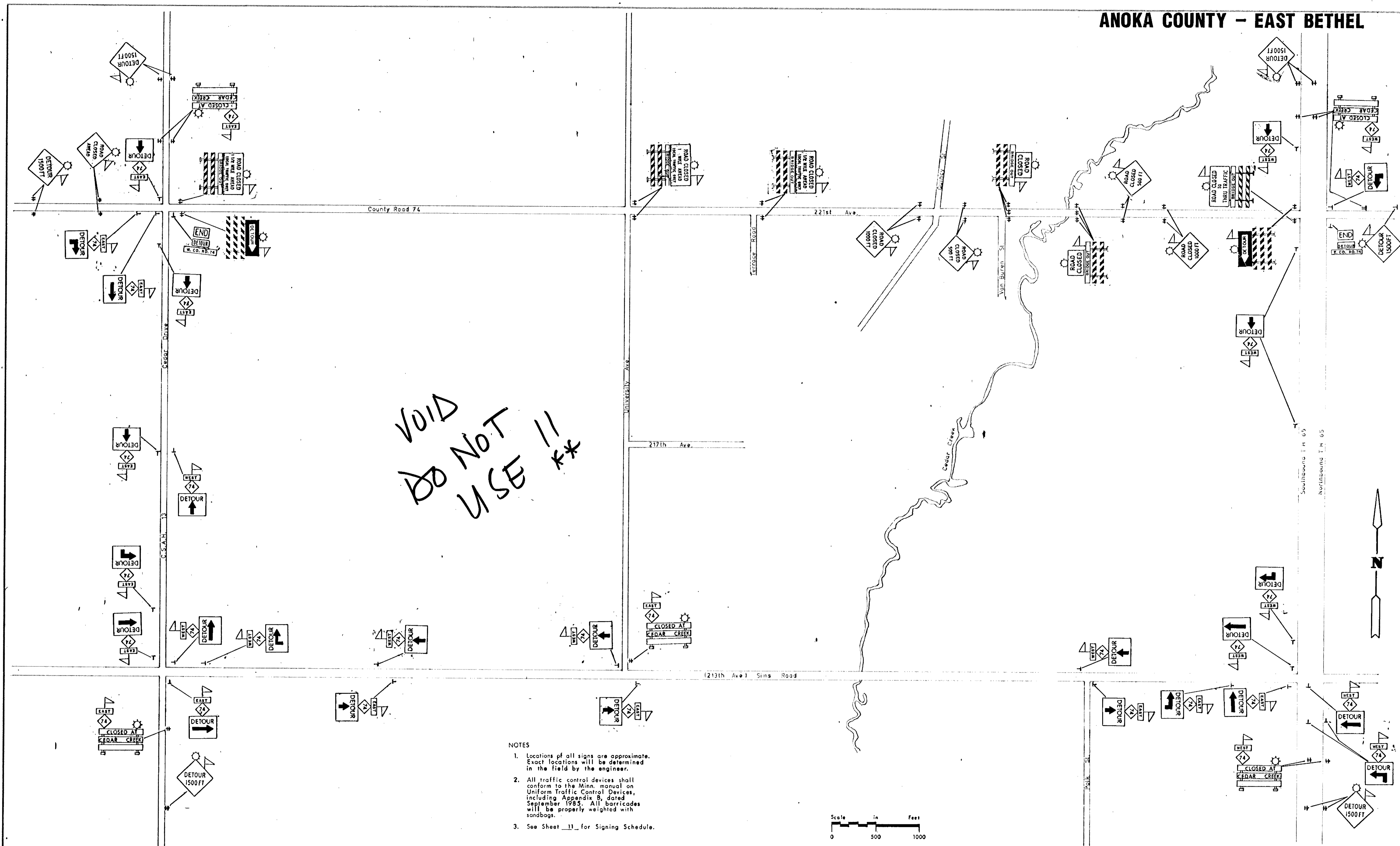
CROSS SECTIONS

DESIGN BY _____ DRAWN BY H.P. d
 APPROVED BY _____ CHECKED BY _____

SCALE 1" = 10'
 INSPECTOR _____

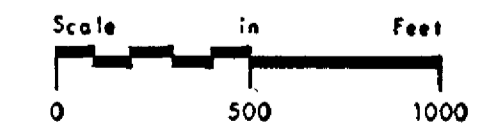
DATE _____
 JOB NUMBER 8912
SHEET 9 OF 11
 FILE _____

ANOKA COUNTY - EAST BETHEL



VOID
DO NOT USE !!
**

- NOTES
1. Locations of all signs are approximate. Exact locations will be determined in the field by the engineer.
 2. All traffic control devices shall conform to the Minn. manual on Uniform Traffic Control Devices, including Appendix B, dated September 1985. All barricades will be properly weighted with sandbags.
 3. See Sheet 11 for Signing Schedule.



COUNTY PROJECT NO. 88-23-74

FIELD BOOK PAGE	PROJECT	DESCRIPTION	FILE NO.	DATE	DESCRIPTION	BY
				2/22/90	221st Ave To Co. Rd. 74	JJ
				3/2/90	Added 4 Signs	JJ
REFERENCE						
REVISIONS						

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

DATE _____ REG. NO. _____

COMSTOCK & DAVIS, INC.

CONSULTING ENGINEERS & LAND SURVEYORS

1448 COUNTY ROAD J
MINNEAPOLIS,
MINNESOTA, 55432
PHONE: 812-784-8348

DESIGN BY JGF
APPROVED BY _____

TRAFFIC CONTROL & DETOURS

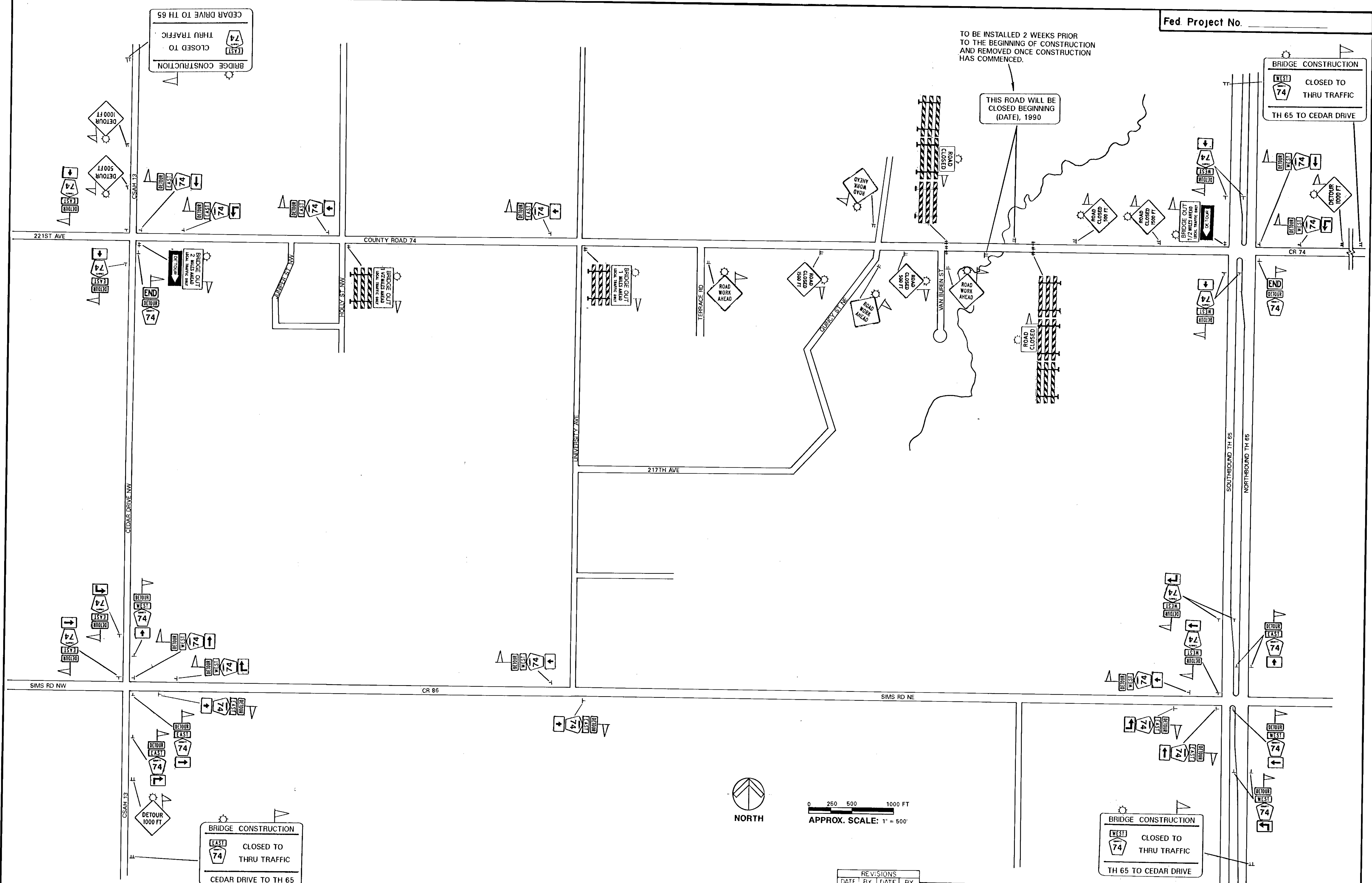
DATE _____
JOB NUMBER 8912
SHEET 10 OF 11
FILE _____

TO BE INSTALLED 2 WEEKS PRIOR TO THE BEGINNING OF CONSTRUCTION AND REMOVED ONCE CONSTRUCTION HAS COMMENCED.

THIS ROAD WILL BE CLOSED BEGINNING (DATE), 1990

BRIDGE CONSTRUCTION
WEST 74
CLOSED TO THRU TRAFFIC
TH 65 TO CEDAR DRIVE

BRIDGE CONSTRUCTION
EAST 74
CLOSED TO THRU TRAFFIC
CEDAR DRIVE TO TH 65



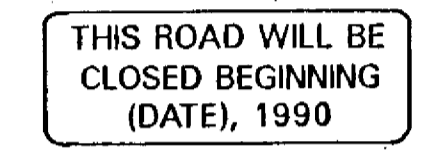
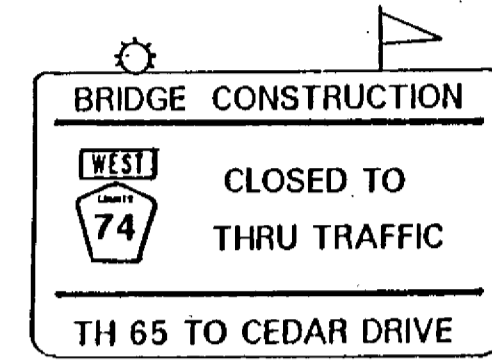
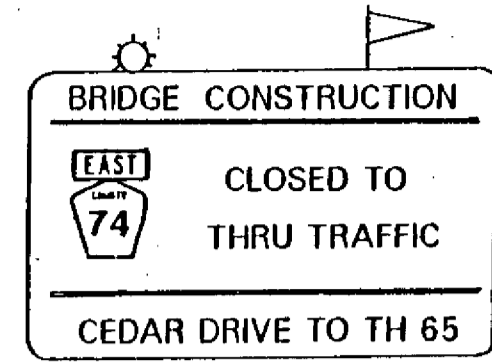
BRIDGE CONSTRUCTION
EAST 74
CLOSED TO THRU TRAFFIC
CEDAR DRIVE TO TH 65

BRIDGE CONSTRUCTION
WEST 74
CLOSED TO THRU TRAFFIC
TH 65 TO CEDAR DRIVE

REVISIONS			
DATE	BY	DATE	BY

S.A.P. _____ S.P. _____ C.P. 88-23-74

M.U.T.C.D. CODE	SIZE	QUANTITY	M.U.T.C.D. CODE	SIZE	QUANTITY	M.U.T.C.D. CODE	SIZE	QUANTITY
W20-2	48" x 48"	1	M4-6	24" x 12"	2			
			M4-8	24" x 12"				
			M1-6	24" x 24"				
W20-2	48" x 48"	3	M4-8	24" x 12"	8			
			M3-2	24" x 12"				
			M1-6	24" x 24"				
			M6-3	21" x 15"				
W20-3	48" x 48"	2	M4-8	24" x 12"	1			
			M3-2	24" x 12"				
			M1-6	24" x 24"				
			M5-1(R)	21" x 15"				
W20-3	48" x 48"	2	M4-8	24" x 12"	1			
			M3-2	24" x 12"				
			M1-6	24" x 24"				
			M6-1(R)	21" x 15"				
TYPE III	8 FT	2	M4-8	24" x 12"	3			
			M3-2	24" x 12"				
			M1-6	24" x 24"				
			M5-1(L)	21" x 15"				
TYPE III	8 FT	2	M4-8	24" x 12"	3			
			M3-2	24" x 12"				
			M1-6	24" x 24"				
			M6-1(L)	21" x 15"				
R11-2	48" x 30"	2	M4-8	24" x 12"	6			
TYPE III	8 FT		M3-4	24" x 12"				
			M1-6	24" x 24"				
			M6-3	21" x 15"				
R11-3 (MODIFIED)	60" x 30"	1	M4-8	24" x 12"	3			
M4-10(L)	48" x 18"		M3-4	24" x 12"				
			M1-6	24" x 24"				
			M5-1(R)	21" x 15"				
R11-3 (MODIFIED)	60" x 30"	1	M4-8	24" x 12"	2			
M4-10(R)	48" x 18"		M3-4	24" x 12"				
			M1-6	24" x 24"				
			M6-1(R)	21" x 15"				
R11-3 (MODIFIED)	60" x 30"	1	M4-8	24" x 12"	3			
TYPE III	8 FT		M3-4	24" x 12"				
			M1-6	24" x 24"				
			M5-1(L)	21" x 15"				
R11-3 (MODIFIED)	60" x 30"	1	M4-8	24" x 12"	2			
TYPE III	8 FT		M3-4	24" x 12"				
			M1-6	24" x 24"				
			M6-1(L)	21" x 15"				
W21-4	36" x 36"	4						



LOCATIONS OF ALL SIGNS ARE APPROXIMATE, EXACT LOCATIONS SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER.

ALL SIGNS AND BARRICADES SHALL BE PROPERLY WEIGHTED WITH SANDBAGS.

ALL BARRICADES WILL HAVE REFLECTIVE MATERIAL ON BOTH SIDES.

ALL BARRICADE MARKINGS WILL BE SLANTED IN ACCORDANCE WITH THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, INCLUDING APPENDIX 'B', DATED SEPTEMBER, 1985.

ADDITIONS OR CHANGES TO THIS PLAN MAY BE MADE AT ANYTIME AS DETERMINED BY THE ENGINEER.

REVISIONS			
DATE	BY	DATE	BY

MUT.C.D. CODE	SIZE	SIGN PANEL LEGEND	QUANTITY	MUT.C.D. CODE	SIZE	SIGN PANEL LEGEND	QUANTITY	
YELLOW FLASHER R11-2	48" X 30"		6	YELLOW FLASHER W20-3	48" X 48"		2	
TYPE III	8 FT.			YELLOW FLASHER M4-10(R)	48" X 18"			
YELLOW FLASHER R11-3	60" X 30"			2	TYPE III	8 FT.		
YELLOW FLASHER R11-3	60" X 30"			2	YELLOW FLASHER M4-10(L)	48" X 18"		
TYPE III	8 FT.			1	TYPE III	8 FT.		
YELLOW FLASHER R11-3	60" X 30"			1	M3-4 M3-2 YELLOW FLASHER	24" X 12"		
TYPE III	8 FT.		1		8 FT.			
YELLOW FLASHER R11-4	60" X 30"		1				5	
TYPE III	8 FT.						4	
M4-6	24" X 12"		2				9	
M4-8	24" X 12"		15					
*	*	* MINIMUM 4" HIGH LETTERS	13					
M3-4	24" X 12"		13					
M3-2	24" X 12"		4					
M4-9	30" X 24"		3					
		Δ FURNISHED BY ANOKA COUNTY	3					
			3					
			5					
YELLOW FLASHER W20-3	48" X 48"		4					
YELLOW FLASHER W20-3	48" X 48"		4					
YELLOW FLASHER W20-2	48" X 48"		10					

VOID
Do Not Use

COUNTY PROJECT NO. 88-23-74

FIELD BOOK		PAGE		PROJECT		DESCRIPTION		FILE NO.	DATE	DESCRIPTION	BY	I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.		COMSTOCK & DAVIS, INC. CONSULTING ENGINEERS & LAND SURVEYORS		1448 COUNTY ROAD J MINNEAPOLIS, MINNESOTA, 55432 PHONE: 812-784-9348		TRAFFIC CONTROL & DETOURS		DATE	JOB NUMBER	SHEET 11 OF 11	
									2/2/90	221st Ave. T. Co. Ra 74	df								8912				
									3/2/90	Added 4 Signs	df									VOID Do Not Use 5-9-90 182			
REFERENCE										REVISIONS		DATE		REG. NO.		DESIGN BY		DRAWN BY		SCALE			
																KF		DJ		INSPECTOR			
																APPROVED BY		CHECKED BY		FILE			