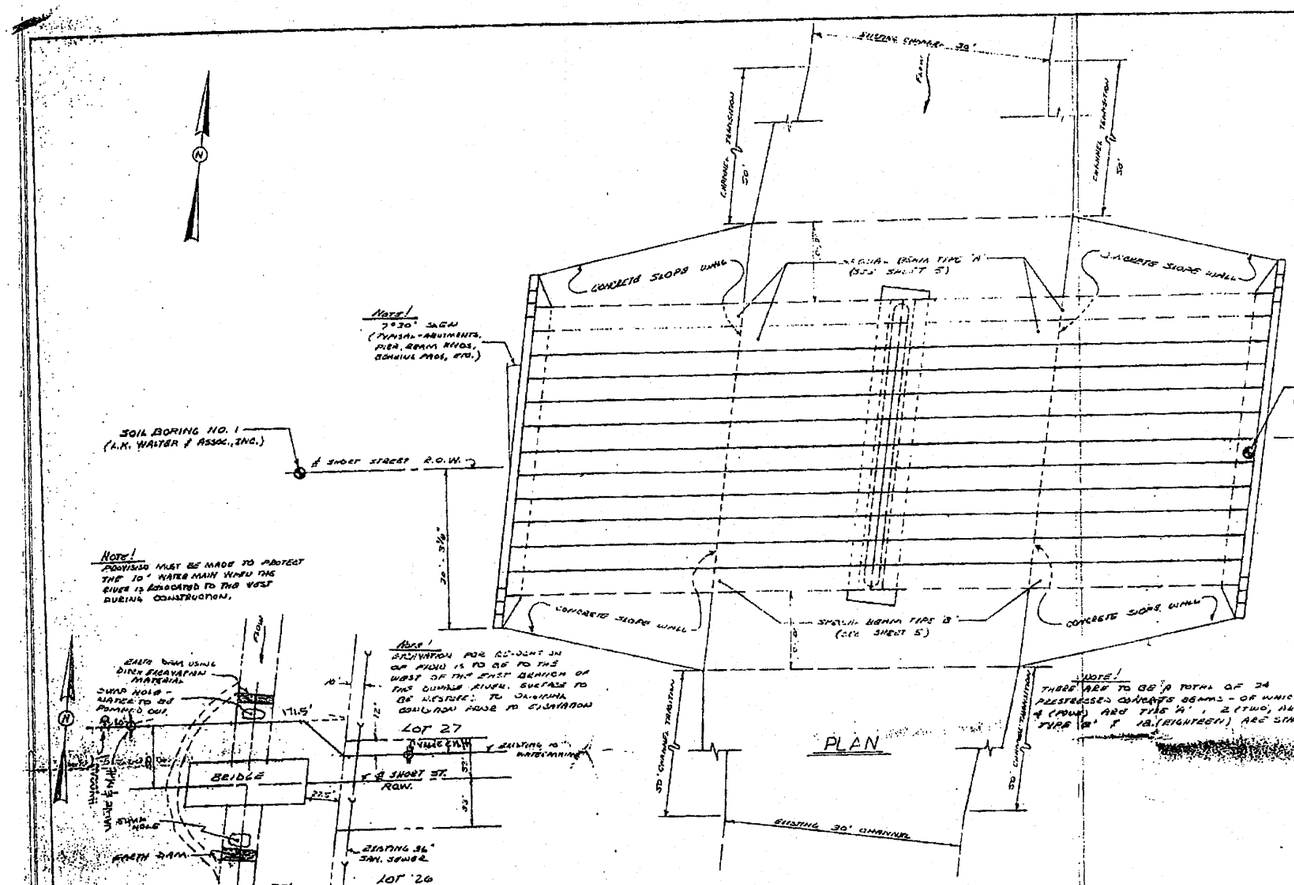


Note!
7 @ 30' = 210' SPAN
(TYPICAL - ABUTMENTS, PIER, BEARING AREAS, BONDING PADS, ETC.)

Note!
PROVISIONS MUST BE MADE TO PROTECT THE 10" WATER MAIN WHERE THIS RIVER IS CROSSED TO THE WEST DURING CONSTRUCTION.

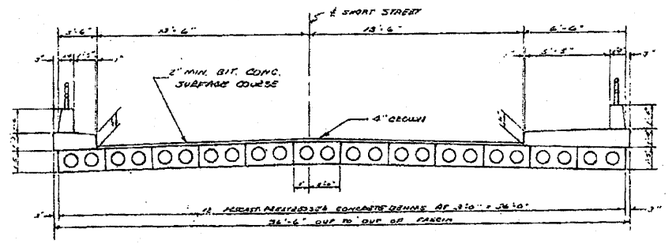
Note!
EXCAVATION FOR RE-ROUTING OF RIVER IS TO BE TO THE WEST OF THE EAST BANK OF THE SHARON RIVER. SUBJECT TO OR WESTSIDE: TO CONTINUE CONDITION PRIOR TO EXCAVATION

EXCAVATION USING DIRECT EXCAVATION MATERIAL

SUMP HOLE - WATER TO BE PUMPED OUT

EXISTING 10" WATERMAIN

Note!
THERE ARE TO BE A TOTAL OF 34 PRESTRESSED CONCRETE BEAMS - OF WHICH 4 (FOUR) ARE TYPE 'A', 2 (TWO) ARE TYPE 'B' & 18 (EIGHTEEN) ARE STANDARD.



CROSS SECTION
SCALE: 1/4" = 1'

BORING NOTES!
1) D : DEPTH IN FEET
2) S : SAMPLE NO.
3) 'N' : PENETRATION - BLOWS/FOOT
4) Q_u : UNCONFINED STRENGTH TONS/SQUARE FOOT
5) W_c : WATER CONTENT - %
6) WATER LEVEL READINGS
   a) ▽ : WHILE SAMPLING
   b) ▽ : AFTER BORING

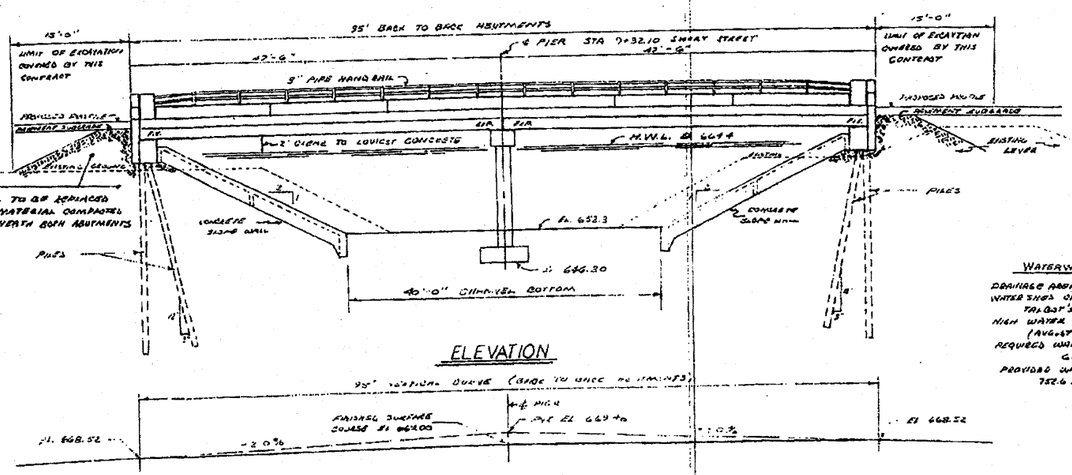
LOG OF BORINGS

BORING NO. 1 7-13-73

D	SOIL TYPE	S	'N'	Q_u	W_c
0	GROUND SURFACE ELEVATION: 650.57				
	FILL (TOPSOIL, CLAY, SAND)	1	18		
		2	14	3.5	18
3.5'	VERY TOUGH BROWN & GREY SILTY CLAY				
4.5'	▽ ▽	3	19		
		4	15		
	MEDIUM DENSE TO DENSE				
		5	29		
		6	44		
		7	52		
20'	END OF BORING				

BORING NO. 2 7-13-73

D	SOIL TYPE	S	'N'	Q_u	W_c
0	GROUND SURFACE ELEVATION: 660.51				
	FILL (TOPSOIL, SILT, SAND, GRAVEL)	1	7		
2.9'	VERY TOUGH GREY & BROWN BLOCKY SILTY CLAY	2	41	3.3	22
4.3'	▽ ▽ TOUGH SILTY GRAVEL	3	9	1.3	22
5.8'	SAND & SILTY LOOSE GRAVEL				
		4	22		
	MEDIUM DENSE GREY SAND & GRAVEL				
		5	29		
15'	VERY STIFF GREY SILTY CLAY				
		6	27		
	DENSE BROWN & GREY SAND & GRAVEL				
		7	42		
21.5'	VERY DENSE GREY SAND - TRACE OF GRAVEL				
		8	87		
23'	END OF BORING				



ELEVATION

PROFILE GRADE

PILES

MATERIAL:
12" BP 53, A36 STEEL
13" WOOD CLASS B 45PM 0.25 CREOSOTED TO 10 lb. RETENTION

LENGTH:
EAST ABUTMENT
STEEL - 30'
WOOD - 35'
WEST ABUTMENT
STEEL - 25'
WOOD - 30'
(ACTUAL LENGTH TO BE DETERMINED BY TEST PILE)

LOADING
25 TON CAPACITY BY PENETRATION

WATERWAY INFORMATION

DRAINAGE AREA: 37.8 SQ. MI.
WATER SHED CHARACTERISTICS: 70% CULT. C = 0.25
HIGH WATER MARK: EL. 664.4 (AUGUST 1924 FLOOD)
REQUIRED WATERWAY OPENING: 667 SQ FT
PROVIDED WATERWAY OPENING: 752.6 SQ FT BELOW H.W.M.

DESIGN DATA!

DESIGN SPECIFICATIONS, A.A.S.H.O. 1969 EDITION & A.A.S.H.O. 1971 INTERIM SPECIFICATIONS

DESIGN LOAD: HS-15-S12

DESIGN STRESSES:
CAST IN PLACE CONCRETE -
f'_c = 3500 PSI
f_c = 1400 PSI
v = 70 PSI
n = 10

PRESTRESSED CONCRETE BEAMS -
f'_c = 5000 PSI
f'_{ci} = 4000 PSI
f_{ti} = 200 PSI

REINFORCING STEEL, DEFORMED
f_s = 20,000 PSI
f_y = 40,000 PSI

PRESTRESSING STEEL - 7/16" ϕ STRANDS
f_s = 248,000 PSI
f_{si} = 173,900 PSI (INITIAL FORCE PER STRAND TO BE 18,700 lbs)

GENERAL NOTES!

1) CLASS "A" CONCRETE SHALL BE USED THROUGHOUT
2) EXPOSED EDGES SHALL BE CHAMFERED ¾".
3) ALL REINFORCEMENT BARS SHALL BE #5 OR SMALLER
4) STEEL FOR DOWEL RODS SHALL BE COIL A30 - HIGH STRENGTH. TRANSVERSE TIE RODS SHALL BE STRUCTURAL STEEL ASTM A-36.
5) THE TRANSVERSE TIE ASSEMBLIES - TIE RODS, NUTS, WASHERS & SLEEVES SHALL BE HOT DIPPED GALVANIZED IN ACCORDANCE WITH ASTM A-153.
6) EXCAVATION, BACKFILLING, EMBANKMENT, SUB-GRADE, SURFACE PROTECTION, JOINT & SURFACING, SUBBASE BOULDER SHALL BE IN ACCORDANCE WITH THE STATE OF ILLINOIS STANDARD SPECIFICATIONS.
7) ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES

PLAN & ELEVATION

SCALE: 3/8" = 1'
DRAWN BY D.D.
DATE: 11-26-73
REVISED 3-18-74
SARGENT - VIRGILIO & ASSOCIATES
72 NORTH BROADWAY
PARK RAPIDS, ILLINOIS
SHEET 3 OF 6
DRAWING NUMBER S6E-8

Added 10-13-10 Sheet 47

Contract Number 63468