

Office Copy

STATE OF OHIO
DEPARTMENT OF HIGHWAYS

SF 82

CUYAHOGA & SUMMIT
S.H. 36 SEC. "K"
GRADE SEPARATION

The Standard Specifications of the State of Ohio, Department of Highways, in force on date of contract will govern this improvement.

The maintenance of railroad traffic during construction of this project is of first importance.

The contractor is required to co-operate with local officials of the railroad company in order to insure the completion of this work without causing interference, obstruction, or delay to railroad traffic. If such interference, obstruction, or delay occurs by reason of the acts of the contractor or his failure to comply with specifications, he shall be liable to the railroad company for the results of his acts or failure to comply with specifications.

The contractor shall provide and maintain a minimum lateral clearance of 2'-0" from the center line of each track, and a minimum vertical clearance of 22'-0" measured from the top of rail of each track, except upon written permission of the Baltimore & Ohio Railroad Company. Railroad roadbed and tracks adjacent to any excavation shall be supported sufficiently to insure safe railroad operation.

The contractor shall so conduct his operations that the existing highway shall be open to traffic at all times during the construction of this improvement.

HIGH-LEVEL BRIDGE
OVER
CUYAHOGA RIVER VALLEY
GRADE SEPARATION WITH B.&O. RR. AT BRECKSVILLE
ON
TWINSBURG - ELYRIA ROAD
S.H. 36 SEC. "K" PET. N^o 6385

CUYAHOGA COUNTY SUMMIT COUNTY
BRECKSVILLE CORPORATION NORTHFIELD CORPORATION

19 30

I HEREBY APPROVE THESE PLANS AND DECLARE THE MAKING OF THIS IMPROVEMENT WILL NOT REQUIRE THE CLOSING TO TRAFFIC OF THE HIGHWAY.

APPROVED *Frank R. Williams*
DATE 2/28/30 RESIDENT DISTRICT DEPUTY DIRECTOR DIVISION 1

APPROVED *Daniel Davis*
DATE 6/27/30 RESIDENT DIVISION DEPUTY DIRECTOR DIVISION 1

APPROVED *W. G. Lewis*
DATE 6-30-30 RESIDENT DISTRICT DEPUTY DIRECTOR DIVISION 4

APPROVED *W. L. Leggett*
DATE 8/30/1930 RESIDENT DIVISION DEPUTY DIRECTOR DIVISION 4

APPROVED *J. B. Beecher*
DATE 6-24-30 DEPUTY DIRECTOR & CHIEF ENGINEER OF BRIDGES

APPROVED _____
DATE _____ DEPUTY DIRECTOR & CHIEF ENGINEER OF CONSTRUCTION

APPROVED _____
DATE _____ DEPUTY DIRECTOR & CHIEF ENGINEER OF MAINTENANCE

APPROVED *Wm. L. ...*
DATE 7-1-30 FIRST ASST. DIRECTOR & CHIEF ENGINEER

APPROVED *Wm. L. ...*
DATE 7-1-30 DIRECTOR OF HIGHWAYS

RECOMMENDED FOR APPROVAL _____
DATE _____ DISTRICT ENGINEER BUREAU OF PUBLIC ROADS

RECOMMENDED FOR APPROVAL _____
DATE _____ CHIEF ENGINEER BUREAU OF PUBLIC ROADS

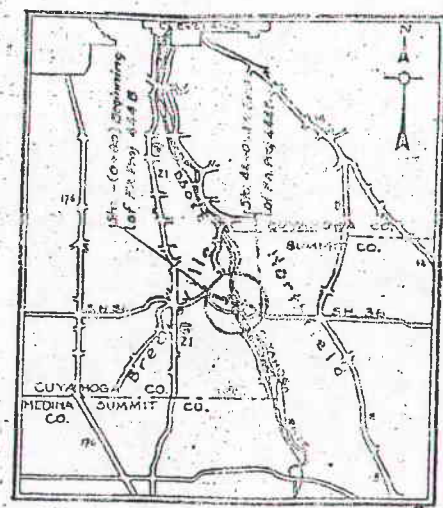
APPROVED _____
DATE _____ CHIEF OF BUREAU

WE, THE COMMISSIONERS OF CUYAHOGA COUNTY HEREBY APPROVE THESE PLANS AND CERTIFY THAT THE RIGHT-OF-WAY IS AVAILABLE FOR THE CONSTRUCTION, MAINTENANCE AND REPAIR OF THE ABOVE HIGHWAY.

WE, THE COMMISSIONERS OF SUMMIT COUNTY HEREBY APPROVE THESE PLANS AND CERTIFY THAT THE RIGHT-OF-WAY IS AVAILABLE FOR THE CONSTRUCTION, MAINTENANCE AND REPAIR OF THE ABOVE HIGHWAY.

Wm. L. ...
DATE 4/28/30 COUNTY COMMISSIONERS

Wm. L. ...
D. J. Hagelbayer
Chris Mann
DATE 6-30-30 COUNTY COMMISSIONERS

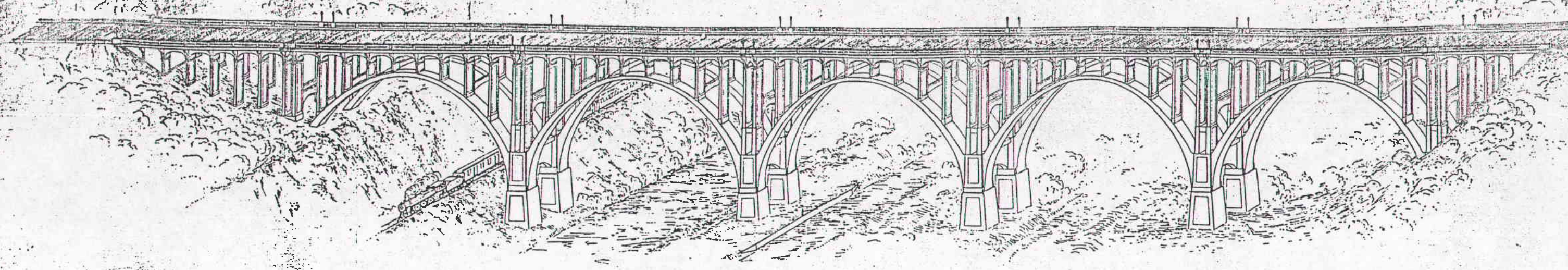


LOCATION PLAN

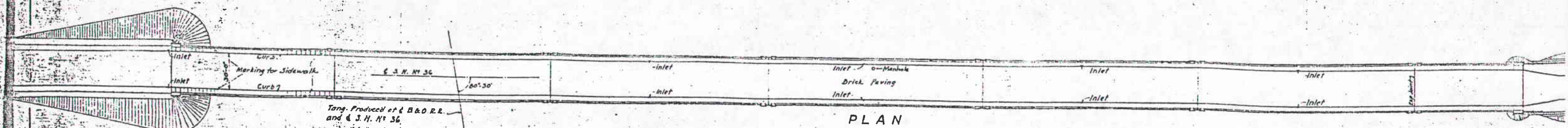
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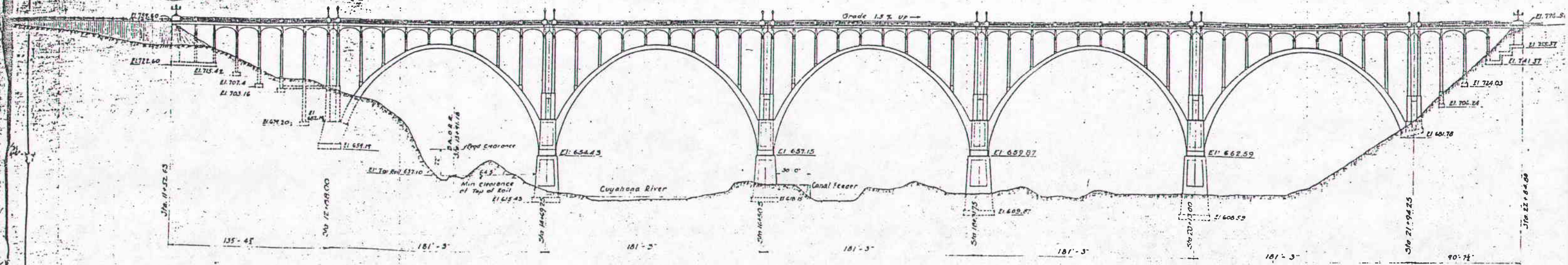
BRIDGE # 114
CHIPPEWA RD. (S.R. 82) OVER CUYAHOGA RIVER



TOPOGRAPHIC SKETCH

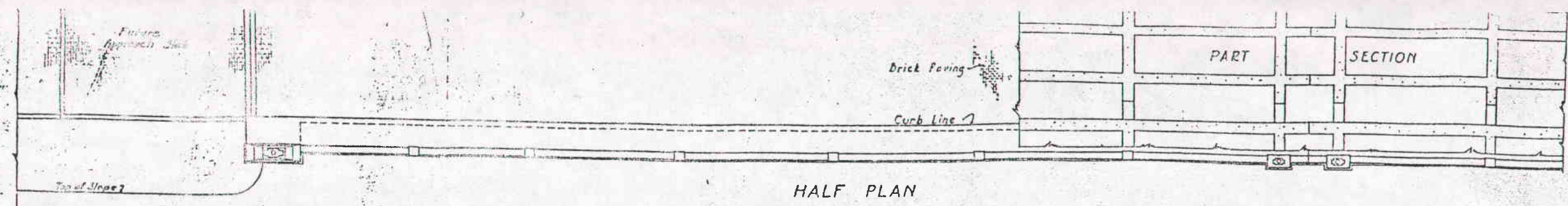


PLAN

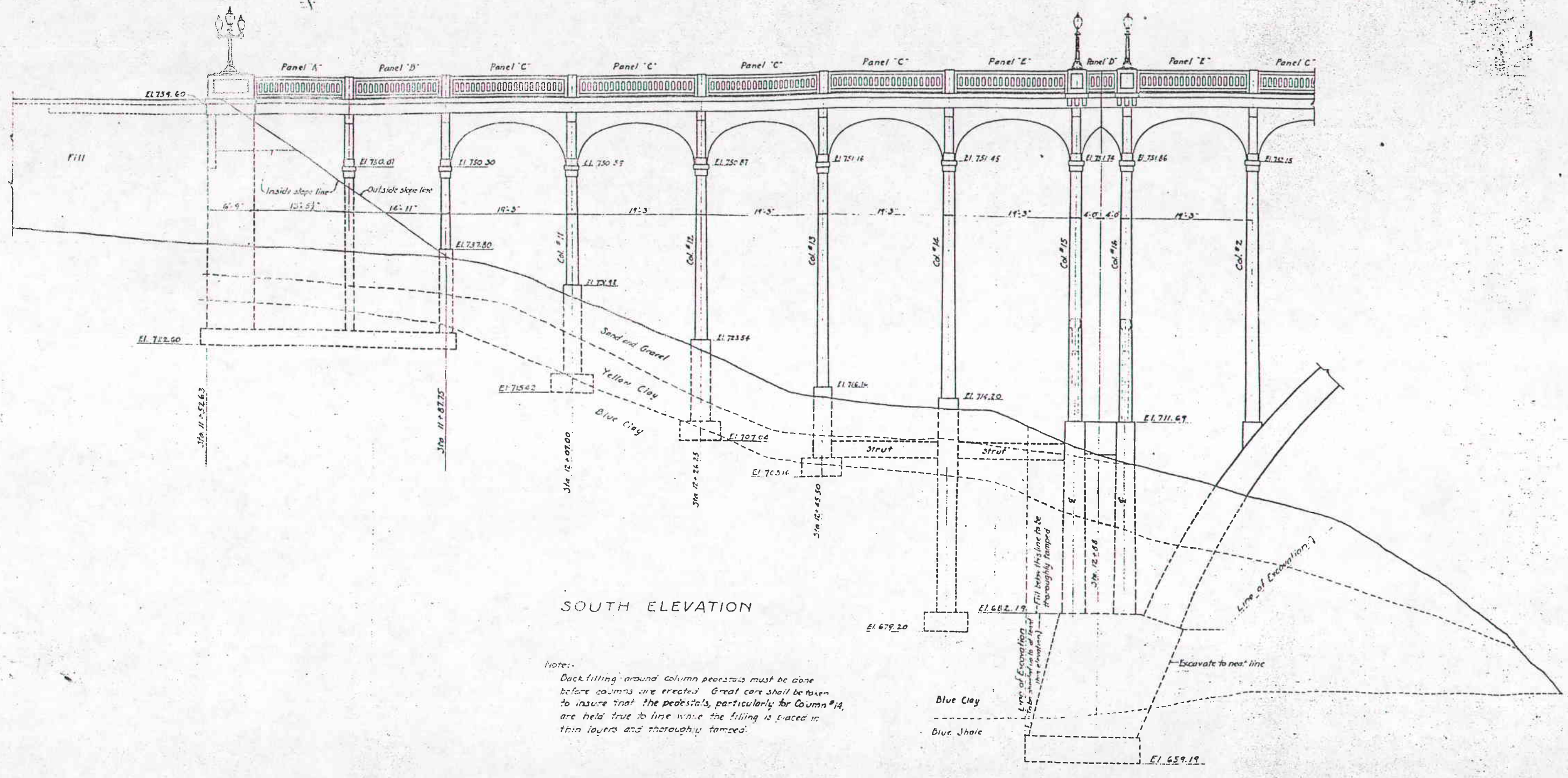


SOUTH ELEVATION
 Scale: 1"=40'-0"

GENERAL ELEVATION &	
GRADE SEPARATION	
S.H. 36 AND B.&O.R.	
JUNE, 1930 BUREAU OF	
DESIGNED BY	TRACED BY
CHAS. H. BROWN	CHAS. H. BROWN



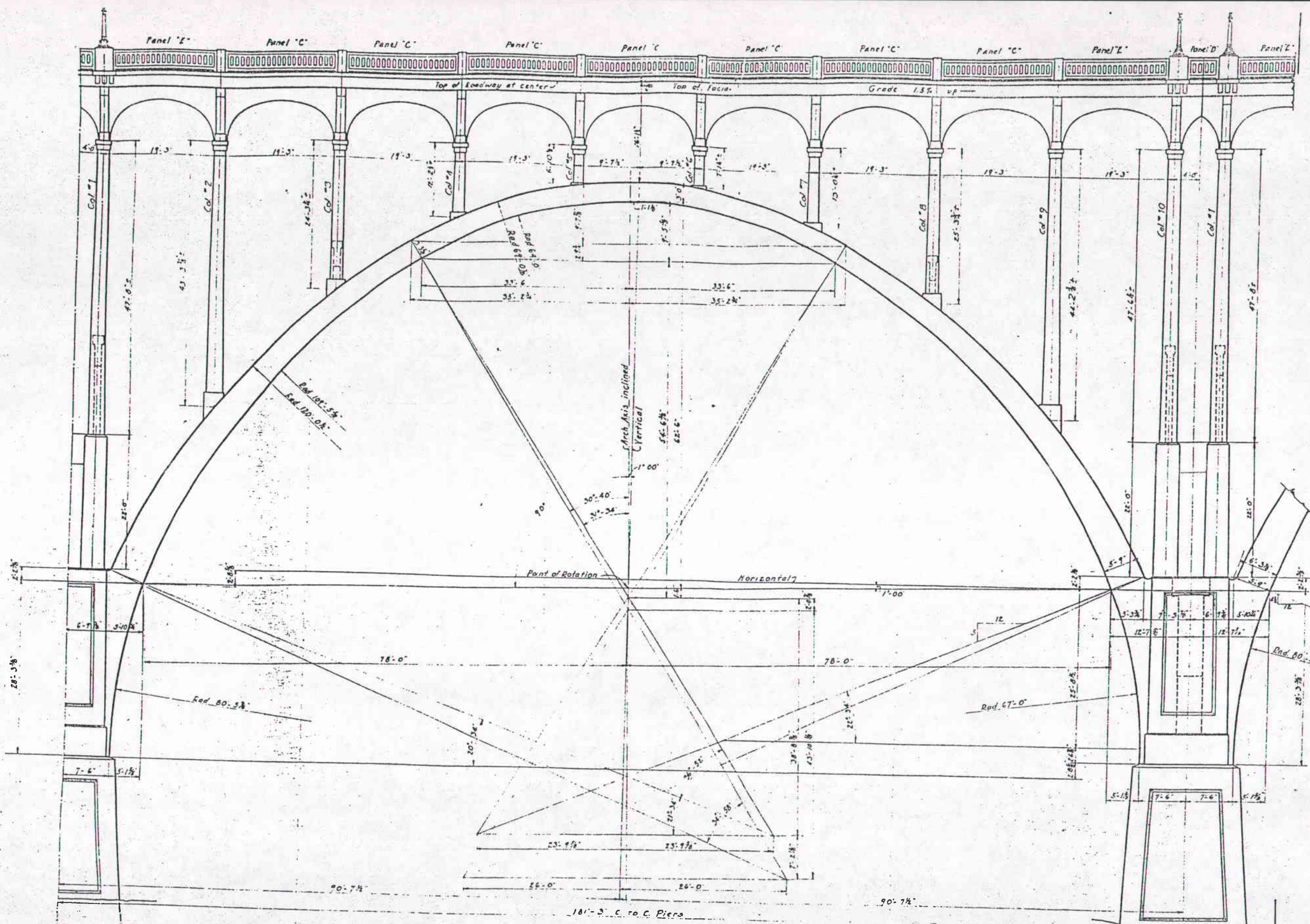
HALF PLAN



SOUTH ELEVATION

Note:
 Backfilling around column pedestals must be done before columns are erected. Great care shall be taken to insure that the pedestals, particularly for Column #14, are held true to line while the filling is placed in thin layers and thoroughly tamped.

ELEVATION WEST APPROACH			
GRADE SEPARATION			
S.H. 36 AND B.B. 1			
JUNE, 1930 - BUREAU			
DESIGNED BY	DRAWN BY	TRACED BY	CHECKED BY
W.S.H.	W.S.H.	J.E.F.	A.T.



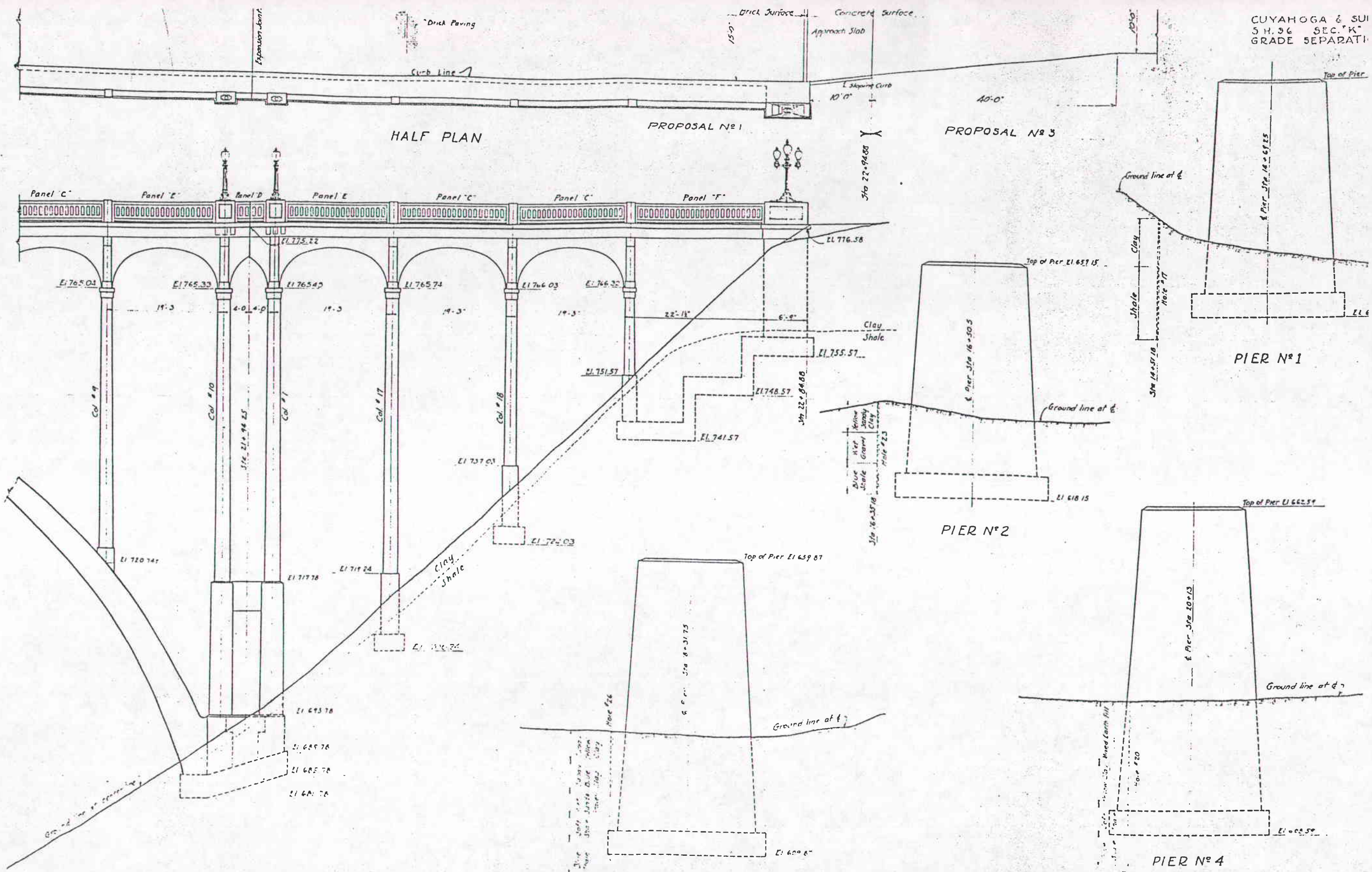
SOUTH ELEVATION

SECTION A-A

ELEVATION OF ARCH

GRADE SEPARATI
 S.H. 36 AND B & O
 JUNE, 1930 BUREAU

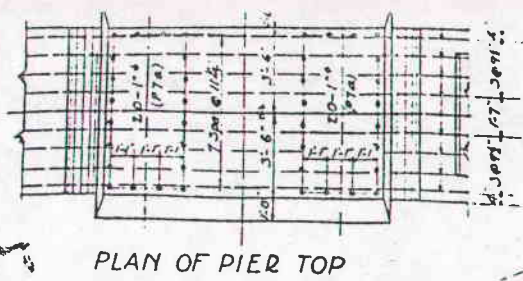
DESIGNED W. S. H.	DRAWN W. S. H.	TRACED J. E. F.	CHECKED M. J.
----------------------	-------------------	--------------------	------------------



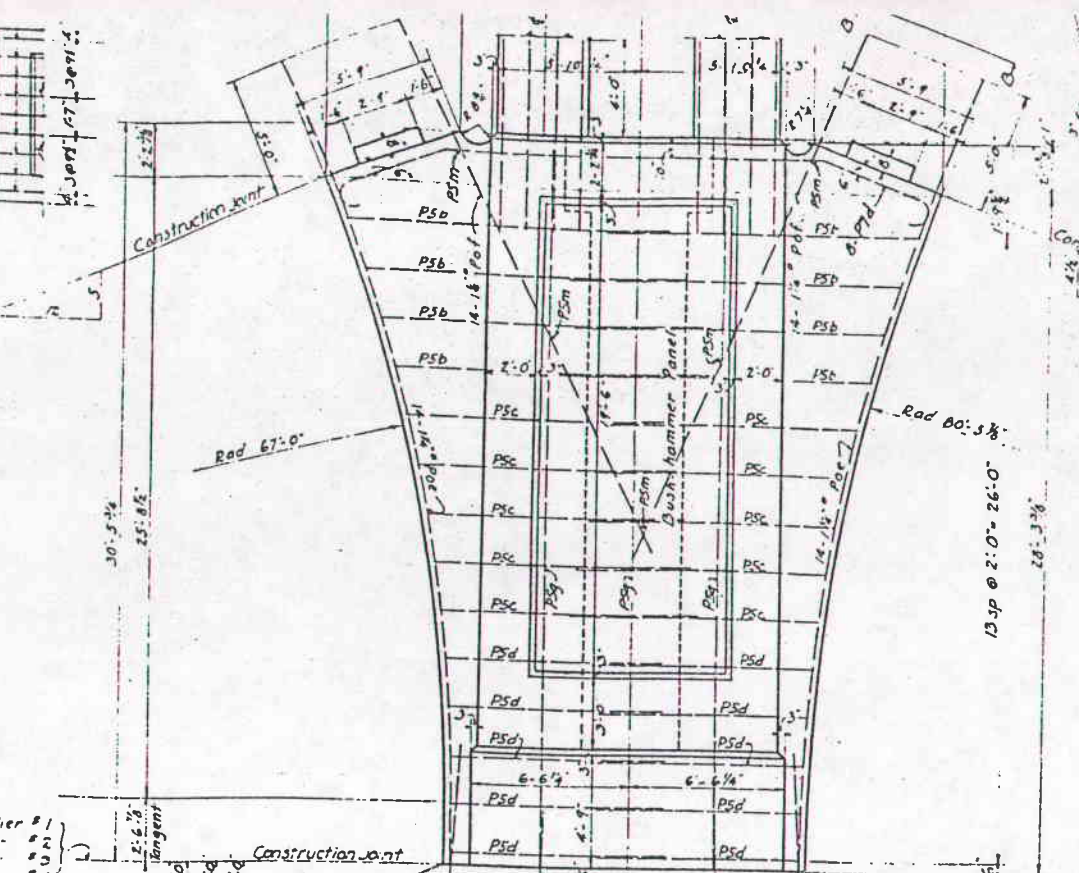
HALF PLAN

SOUTH ELEVATION

ELEVATION EAST APPROACH			
GRADE SEPARATION			
S.H. 36 AND B60			
JUNE, 1930			



PLAN OF PIER TOP



PIERS No 1-2-3-4

Elev. Top of Pier

654.43	Pier #1
657.15	"#2
659.87	"#3
662.59	"#4

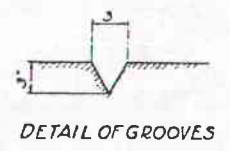
13'-0" Piers No 1 & 2

35'-0"	11 sp @ 2'-0" = 22'-0"
46'-0"	11 sp @ 2'-0" = 22'-0"
59'-0"	11 sp @ 2'-0" = 22'-0"

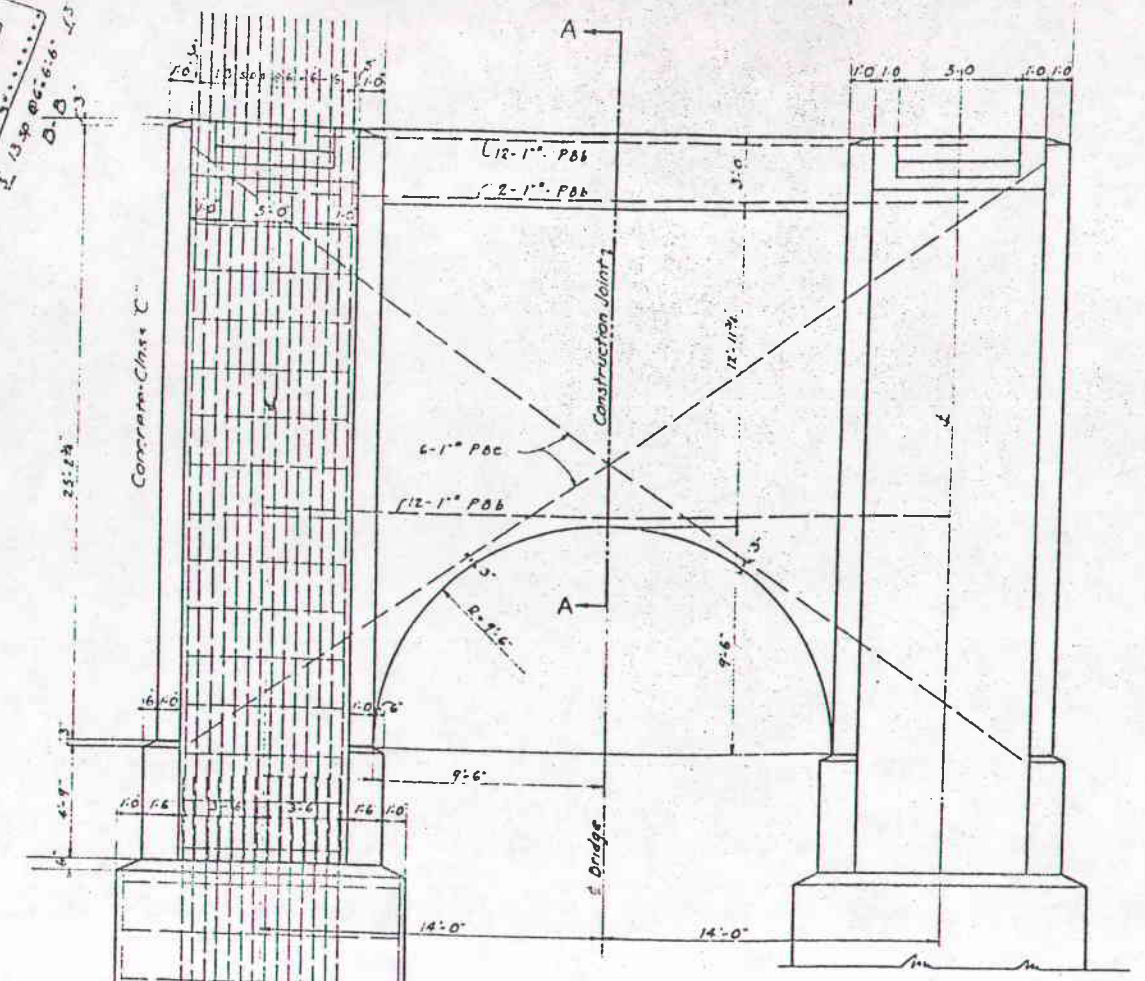
12 Hoops 15e Piers No 1-2-3-4

Elev. Top of Footing

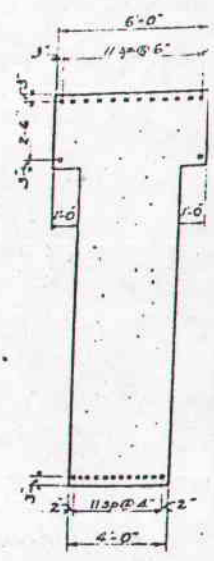
619.43	Pier #1
622.15	"#2
613.87	"#3
612.59	"#4



DETAIL OF GROOVES



END ELEVATION



SECTION A-A

ESTIMATED QUANTITIES

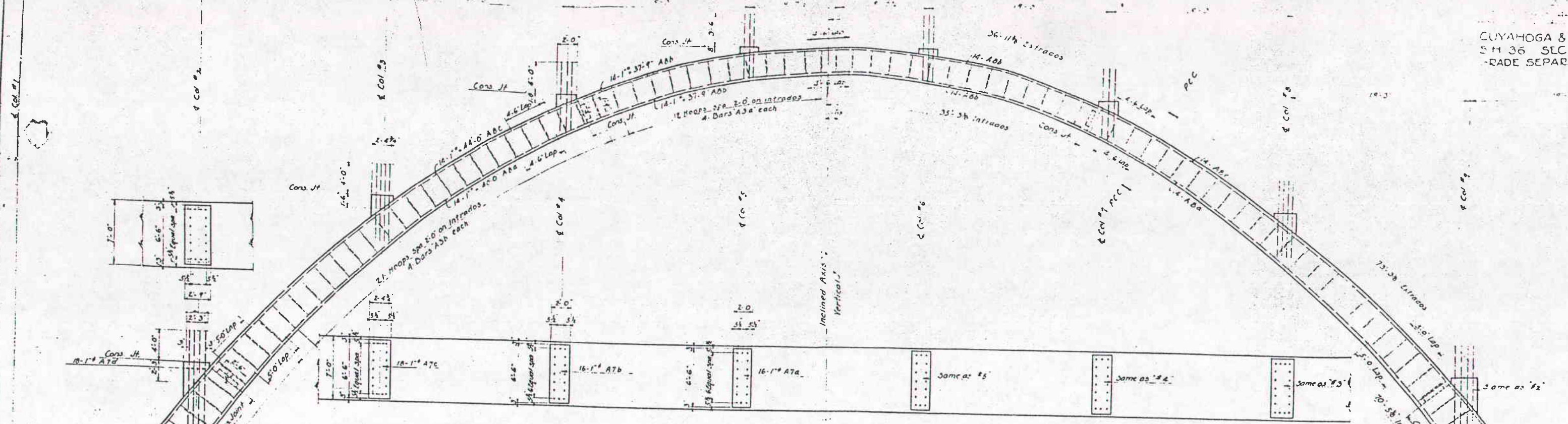
EXCAVATION - DRY	1260	CU. YDS.
EXCAVATION - WET	385	CU. YDS.
EXCAVATION - ROCK - WET	815	CU. YDS.
CONCRETE CLASS "C" 1-3/4 MIX	4525	CU. YDS.
CONCRETE CLASS "D" 1-3/4 MIX (FOOTINGS)	502	CU. YDS.
REINFORCING STEEL	204930	LBS.

Note - Earth excavation figured 1ft outside neat line of footings
Rock " " " " on neat line of footing
Dry " " " " above elevation 620.00

PIERS AND UMBREL

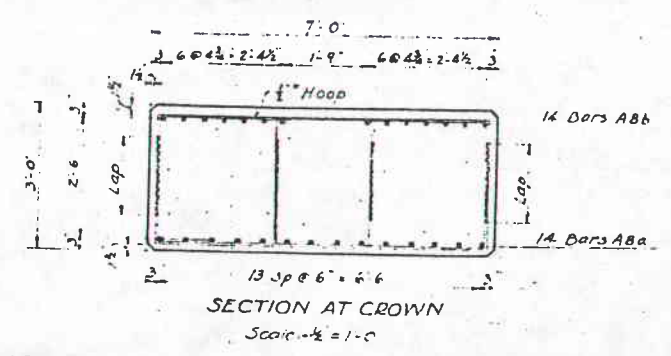
GRADE SEPARATIO
S.H. 36 AND B.O.R.
JUNE, 1930 BUREAU OF

DESIGNED	DRAWN	TRACED	CHEK'D
W.S.M.	W.S.M.	J.E.P.	M.M.C.



PLAN OF ARCH RIB

ARCH SYMMETRICAL ABOUT INCLINED AXIS
 WORKING CENTERS & RADII SHOWN ON SHEET NO 4



SECTION AT CROWN
 Scale = 1/4" = 1'-0"

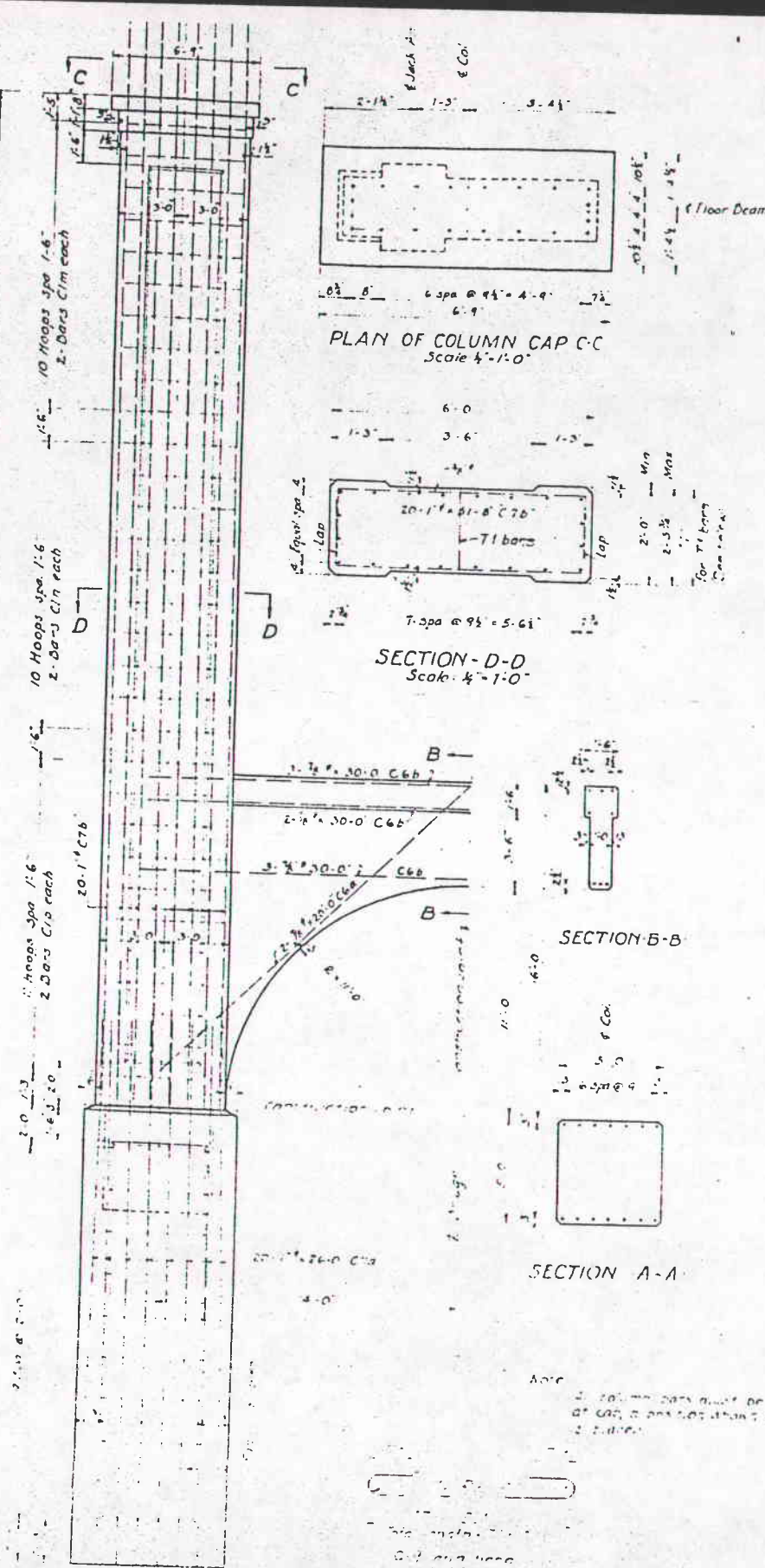
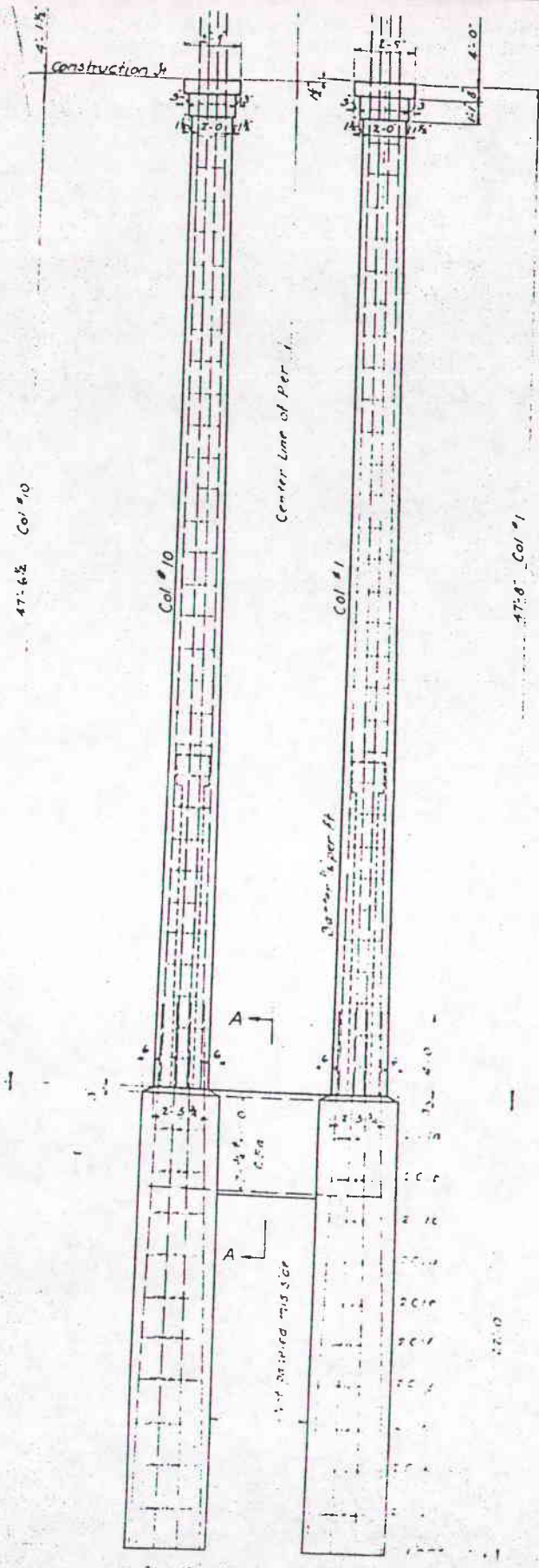
DETAIL OF ARCH REINFORCEMENT

Scale = 1/4" = 1'-0"
 All spans alike

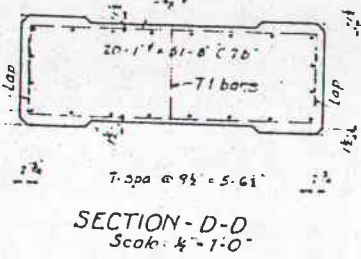
Note:
 Concrete to be placed in the following sequence
 1st The two end sections simultaneously
 2nd Crown section
 3rd The two haunch sections simultaneously

ESTIMATED QUANTITIES FOR 10 ARCH RIBS
 CONCRETE CLASS "A" 1-5/8 MIX 2264 CU YDS
 REINFORCING STEEL 338405 LBS.

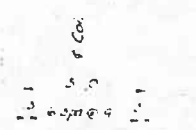
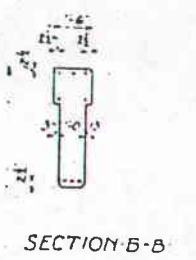
ARCH RIBS			
GRADE SEPARATIO			
SH. 36 AND B&O. 1			
JUNE, 1911 BUREAU C			
DESIGNED	CHECKED	TRACED	CHECKED



PLAN OF COLUMN CAP C-C
Scale 1/4" = 1'-0"

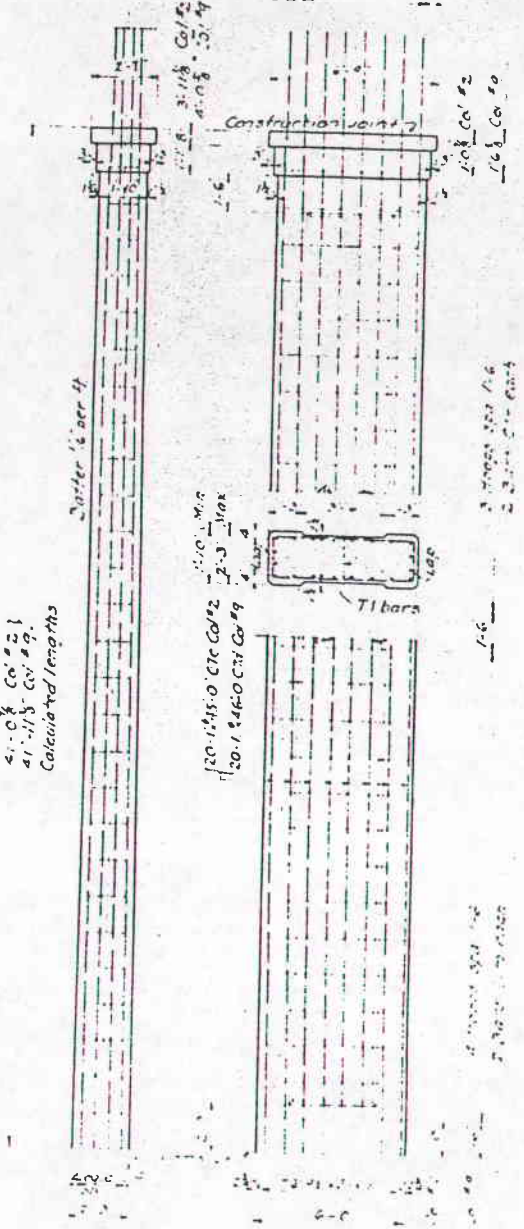


SECTION D-D
Scale 1/4" = 1'-0"

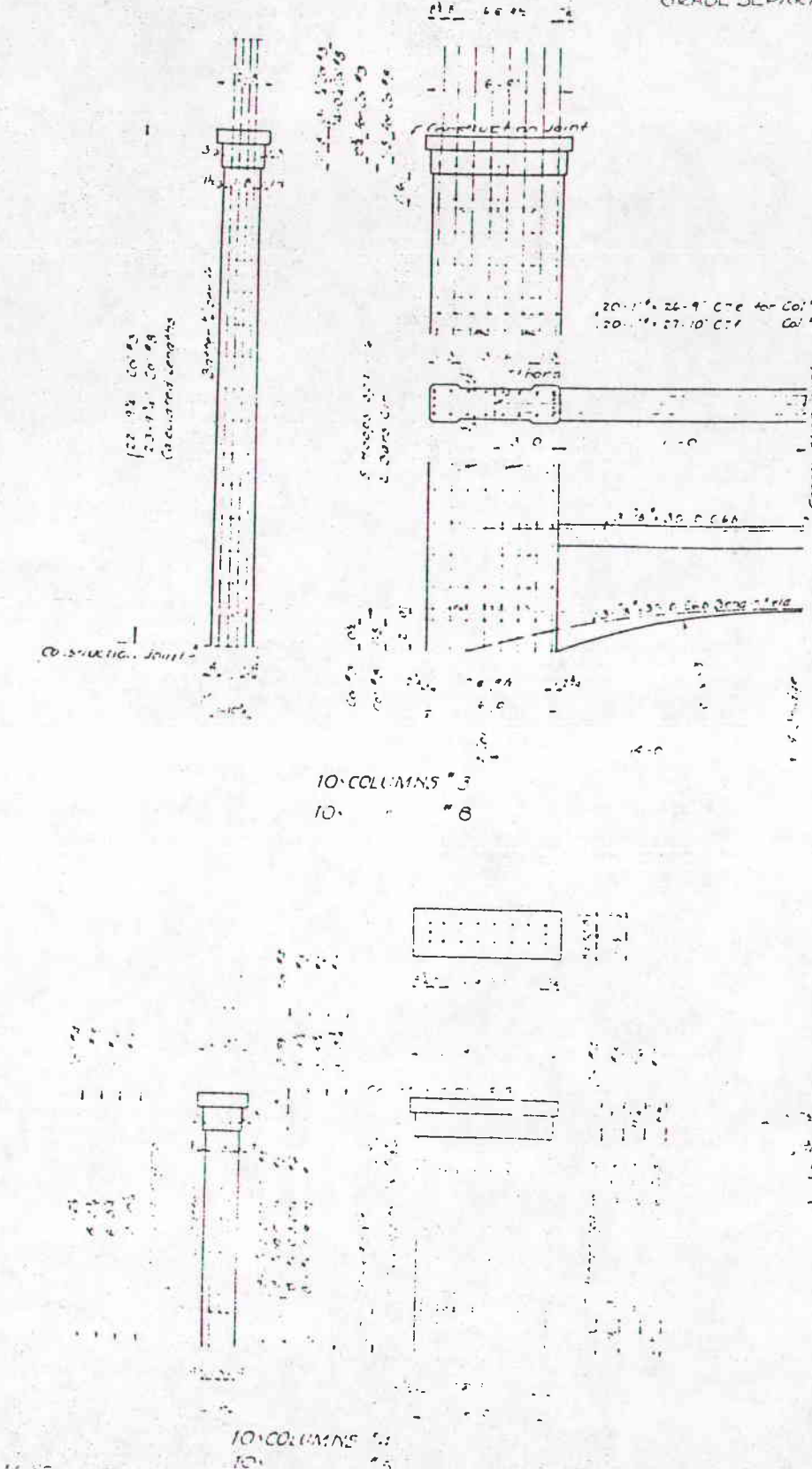


SECTION A-A

41'-0 1/2" Col #10
41'-11 1/2" Col #1
Calculated lengths



10-COLUMNS #2
10- " #9



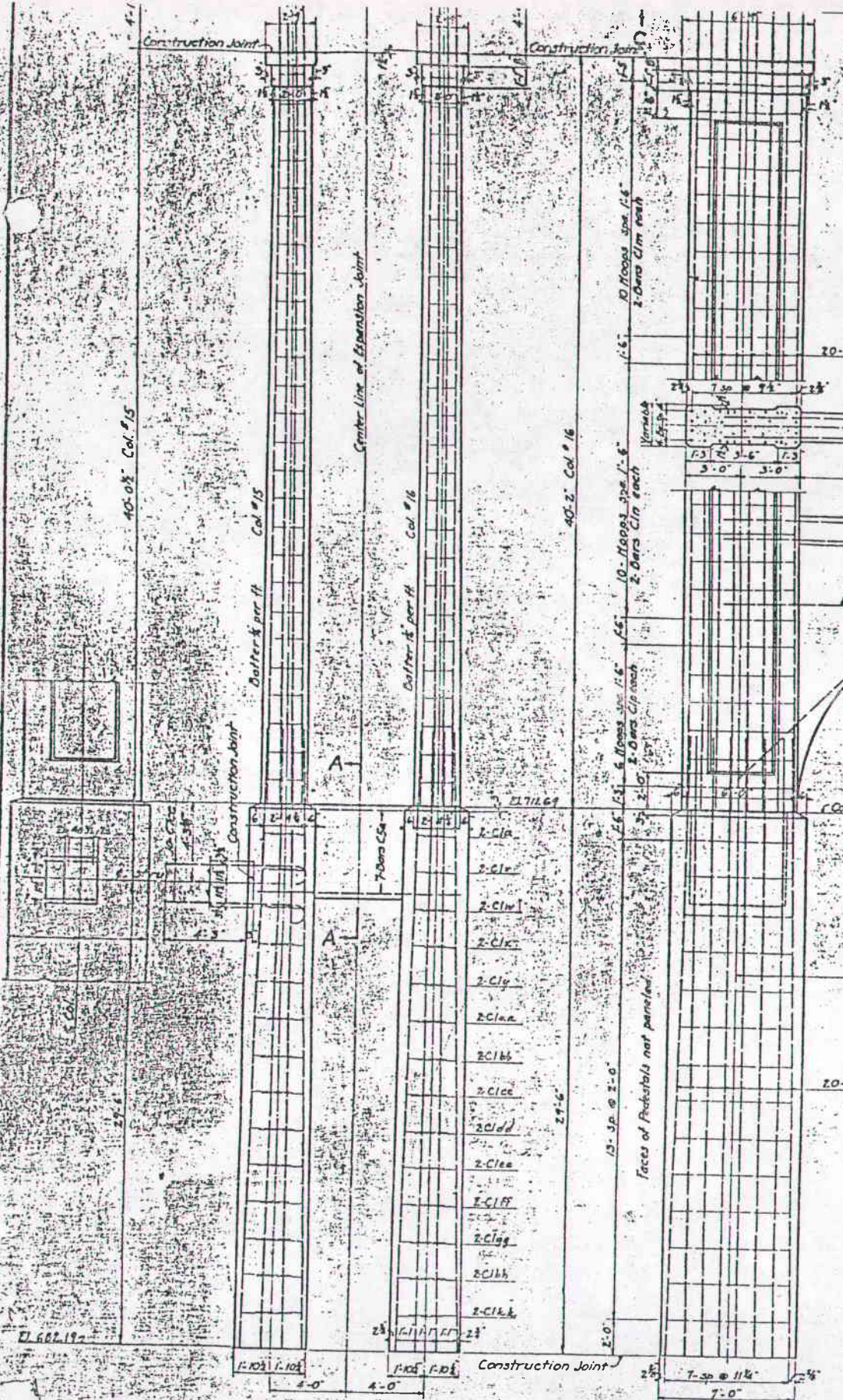
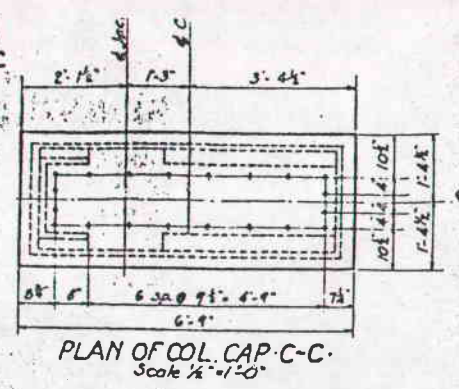
10-COLUMNS #3
10- " #8

10-COLUMNS #4
10- " #5
10- " #6
10- " #7

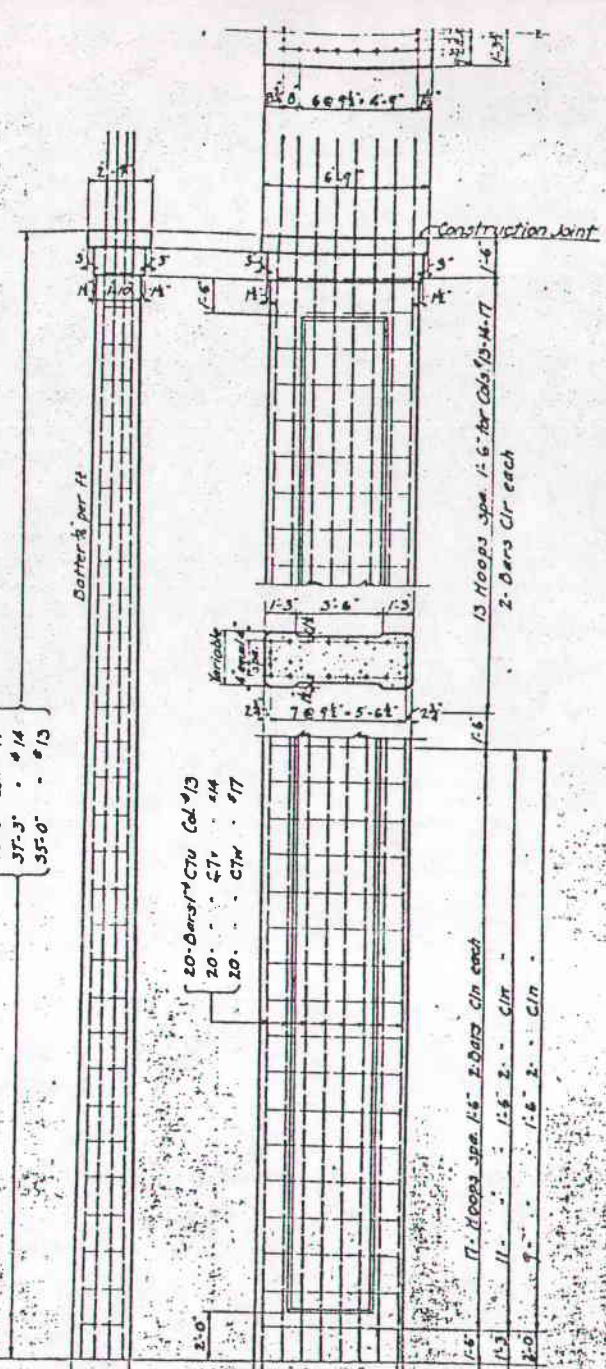
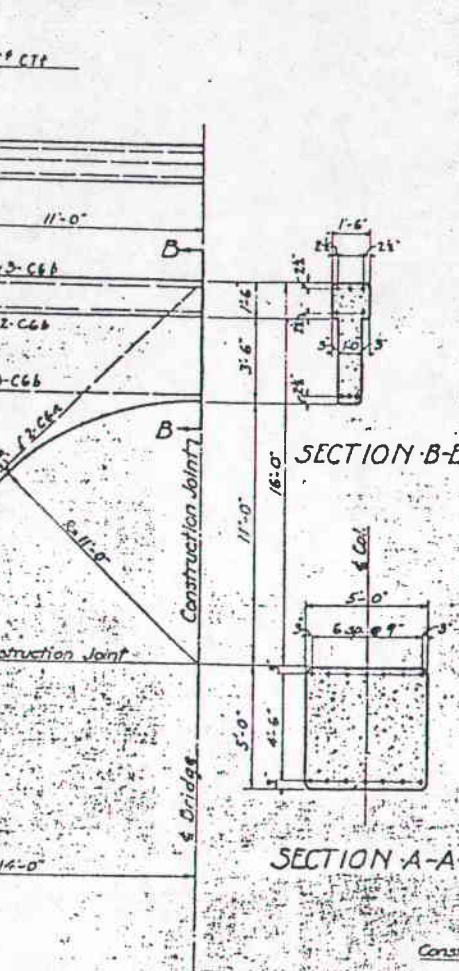
COLUMNS OVER
GRADE SEPAR
36 AND 37

ESTIMATED QUANTITIES
Concrete Class D - 15 cu yd
Reinforcing Steel - 21365 lbs

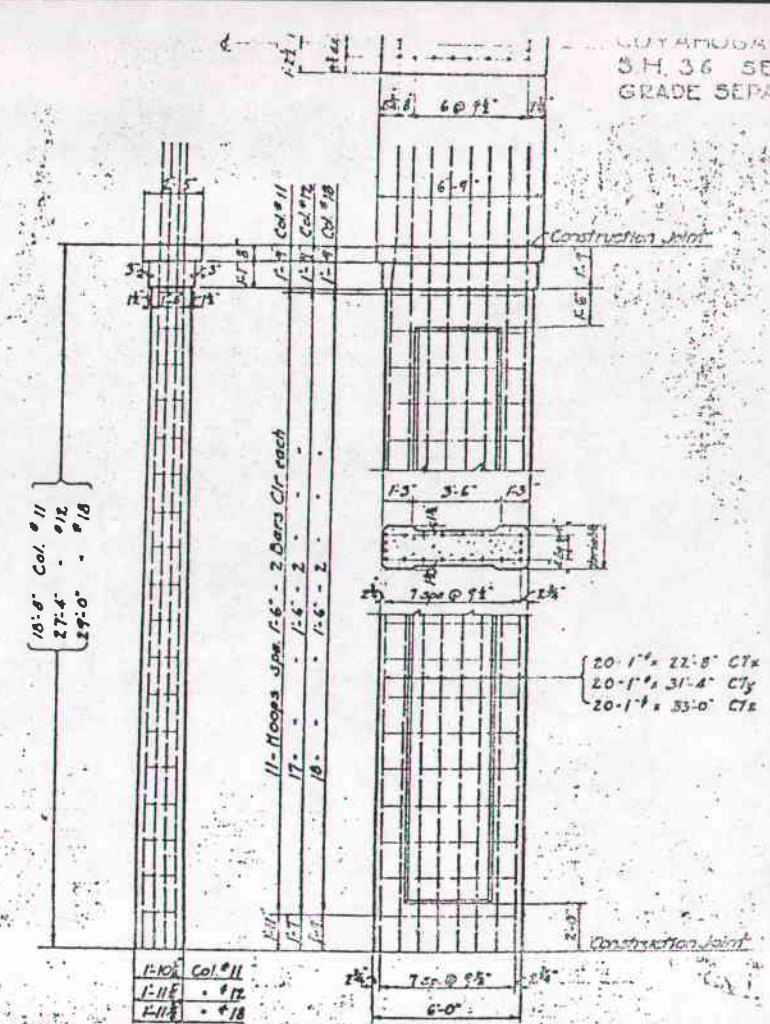
Note:
1. Column caps must be set with template
at cap positions shown before concrete
is placed.



2-COLUMNS #15
2-COLUMNS #16



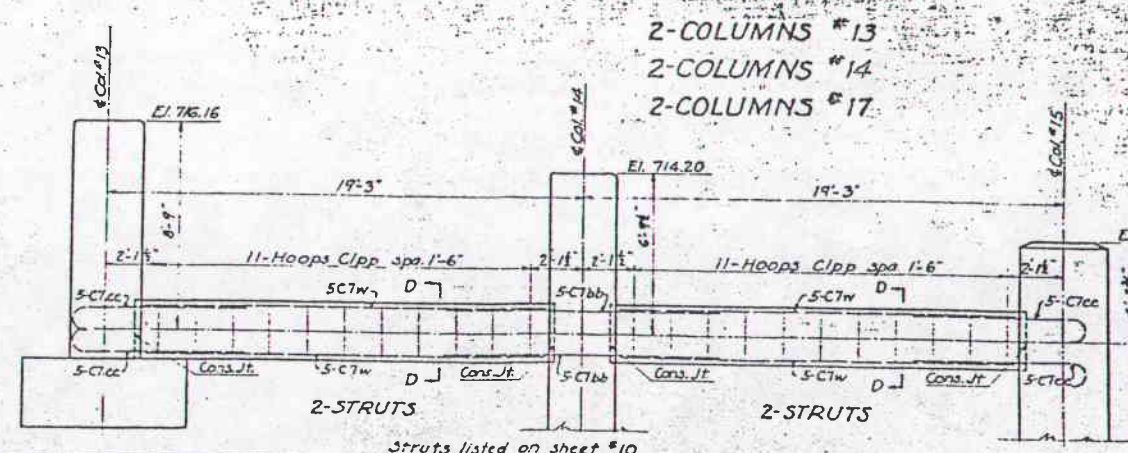
2-COLUMNS #13
2-COLUMNS #14
2-COLUMNS #17



2-COLUMNS #11
2-COLUMNS #12
2-COLUMNS #18

Note:
All column bars must be set with tampion at cap, in position shown before concrete is placed.

ESTIMATED QUANTITIES
Concrete Class B 1-5# 363 cu yds
Reinforcing Steel 44723 lbs.

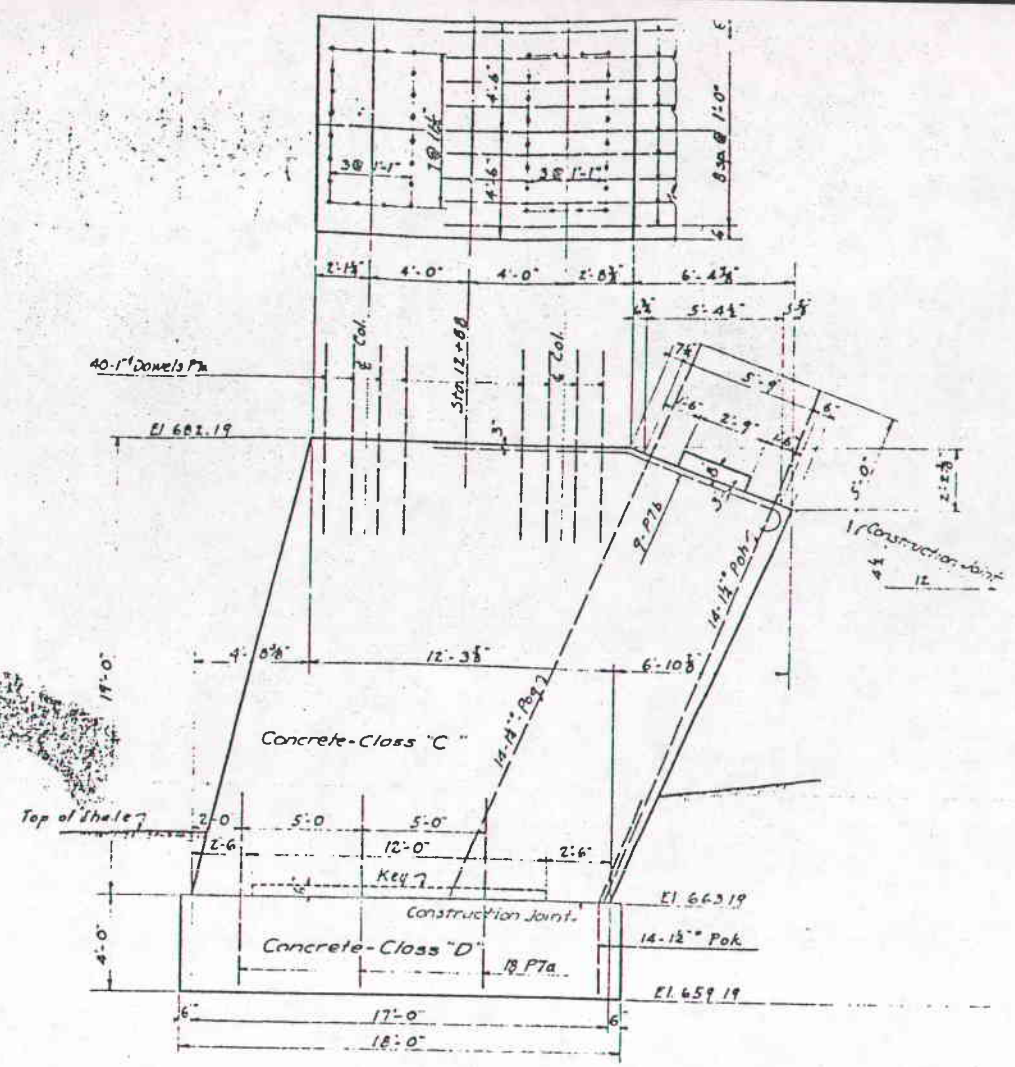


2-STRUTS

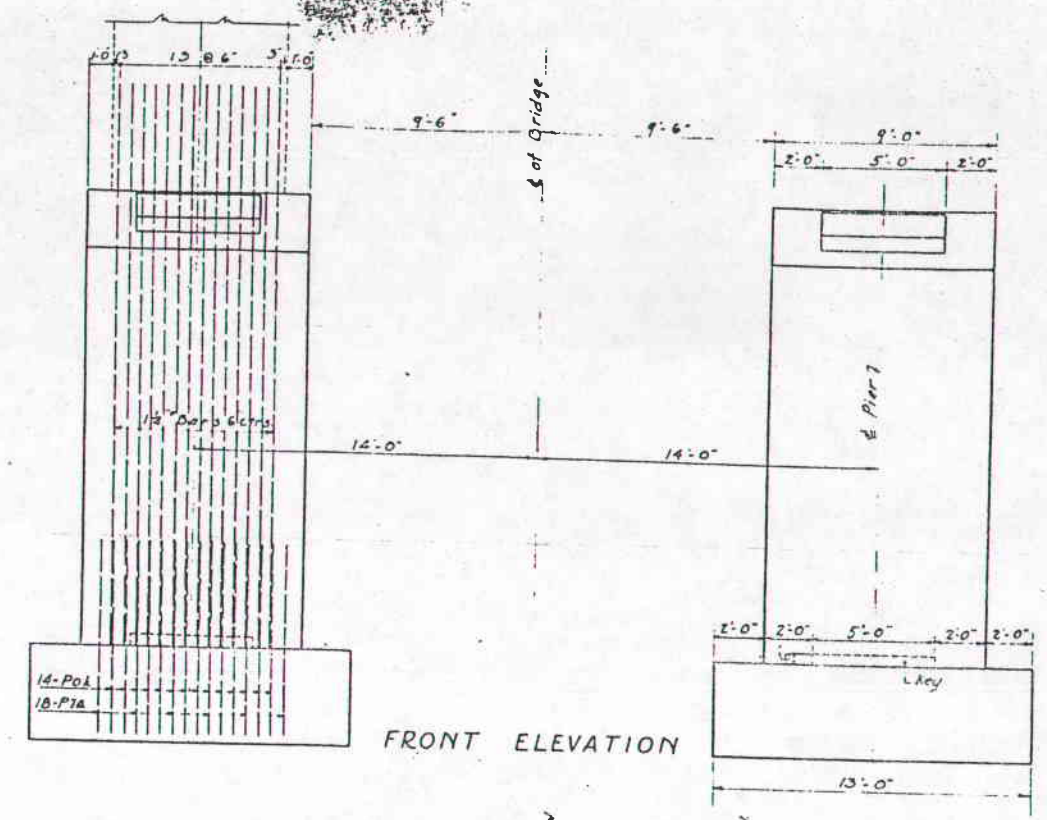
Struts listed on sheet #10

Scale 1/2"=1'-0" unless noted.

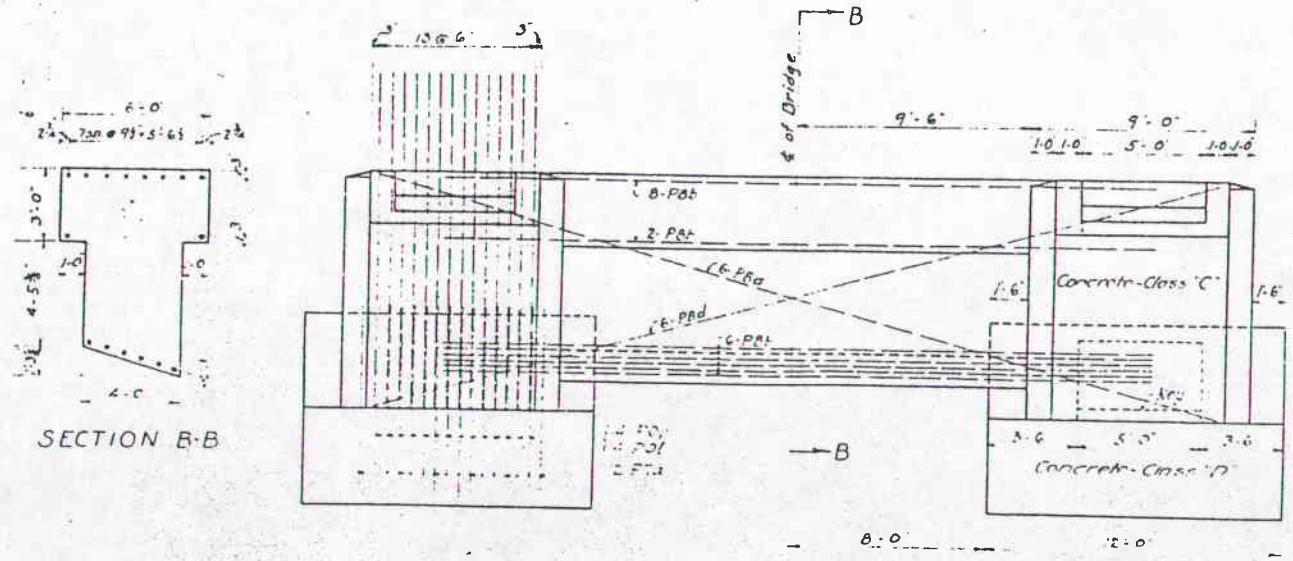
APPROACH		
GRADE SEP		
S.H. 36 AN.		
JUNE, 1930		
DESIGNED W.S.M.	DRAWN W.S.M.	TRACED J.E.



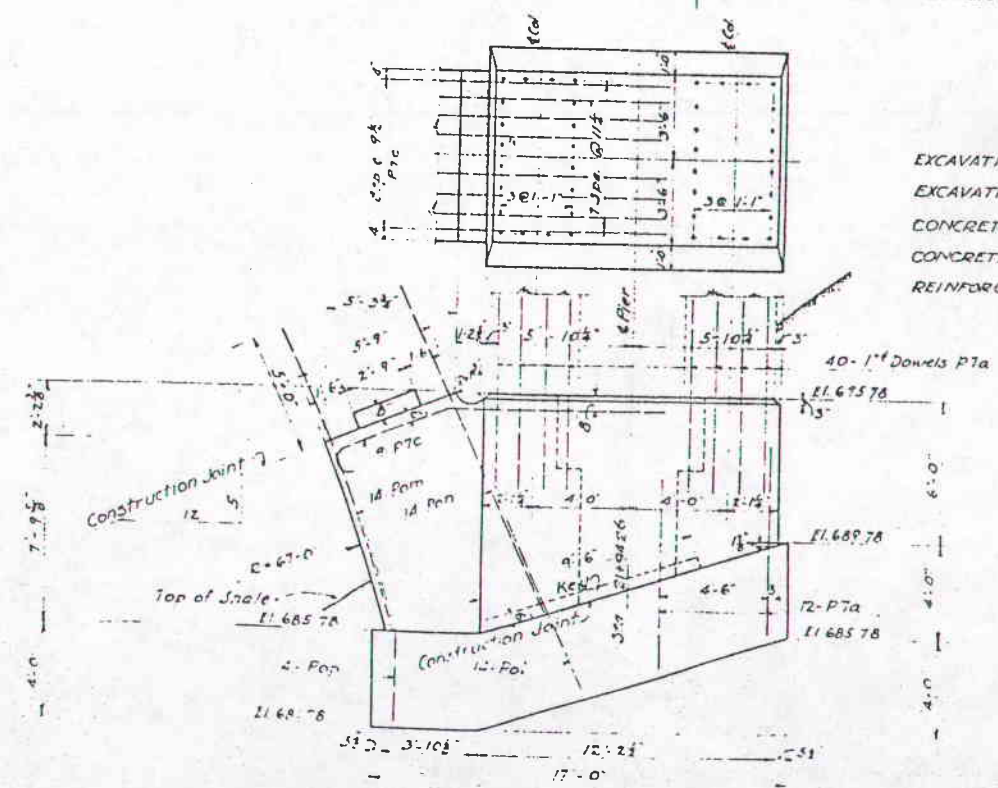
WEST ARCH ABUTMENT
 Scale 1/4" = 1'-0"



FRONT ELEVATION



FRONT ELEVATION



EAST ARCH ABUTMENT
 Scale 1/4" = 1'-0"

ESTIMATED QUANTITIES

EXCAVATION - DRY	14
EXCAVATION - ROCK	2
CONCRETE CLASS "C" 1-3 1/2 MIX	3
CONCRETE CLASS "D" 1-5 1/2 MIX (FOOTINGS)	1
REINFORCING STEEL	242

EAST & WEST ARCH ABUTMENTS
 GRADE SEPARATION
 S.H. 36 AND B. & O.
 JUNE 1930
 BUREAU OF PUBLIC WORKS