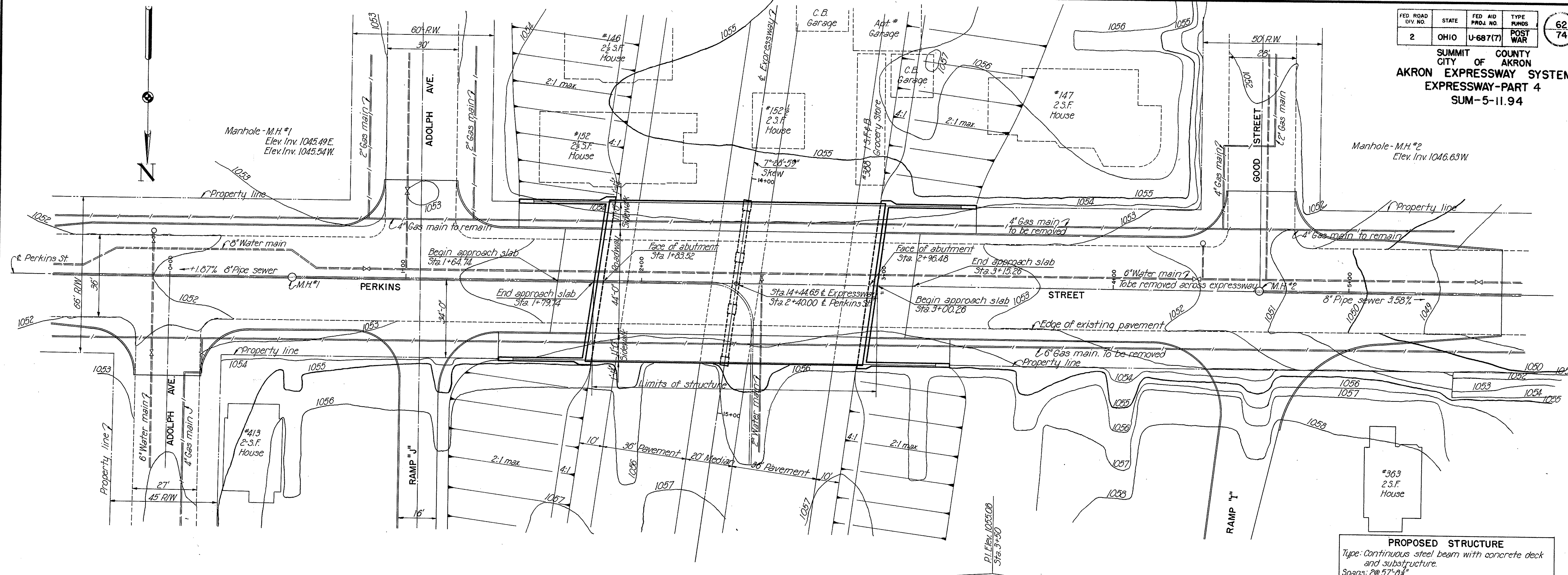
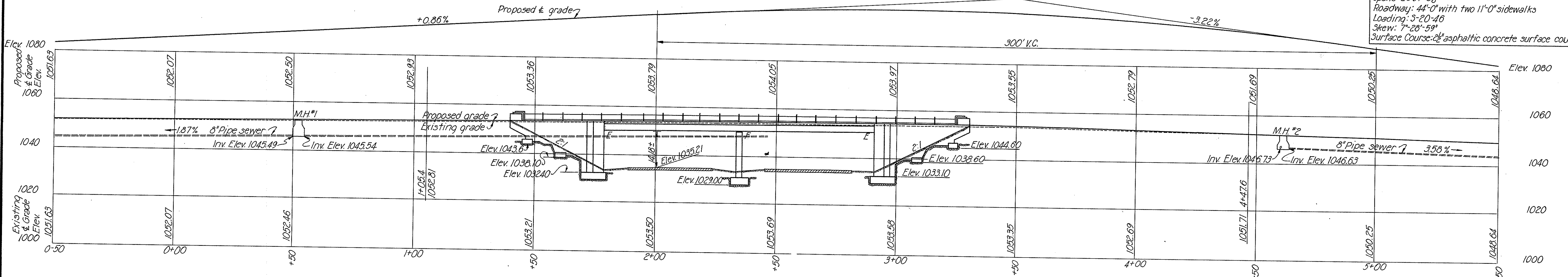


FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.	TYPE FUNDS	POST WAR
2	OHIO	U-687(7)		62 74

SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM
EXPRESSWAY-PART 4
SUM-5-11.94



PROPOSED STRUCTURE
Type: Continuous steel beam with concrete deck and substructure.
Spans: 2@ 57'-8 1/2"
Roadway: 44'-0" with two 11'-0" sidewalks
Loading: S-20-46
Skew: 7°-28'-59"
Surface Course: 2 1/2" asphaltic concrete surface course.



Note:
For additional details of new and existing utilities, see Sheet 34.

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

AKRON EXPRESSWAY SYSTEM
(EAST MARKET STREET TO EAST CUYAHOGA FALLS AVENUE)
PERKINS UNDERPASS
BR. NO. SU-5-122

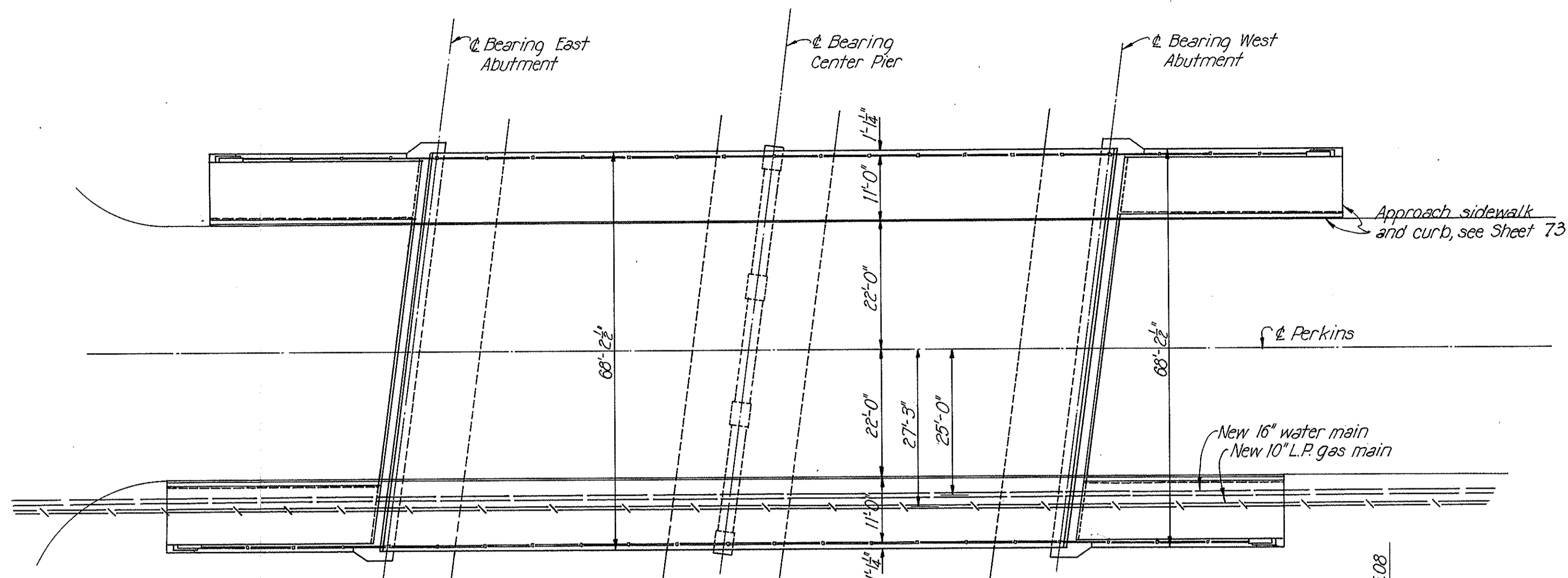
SITE PLAN
AKRON, SUMMIT COUNTY, OHIO

SCALE: 1" = 20'
MADE PER DATE 9-1-50
TRC/BER:BB DATE 10-5-50
CKD: DMD DATE 10-7-50

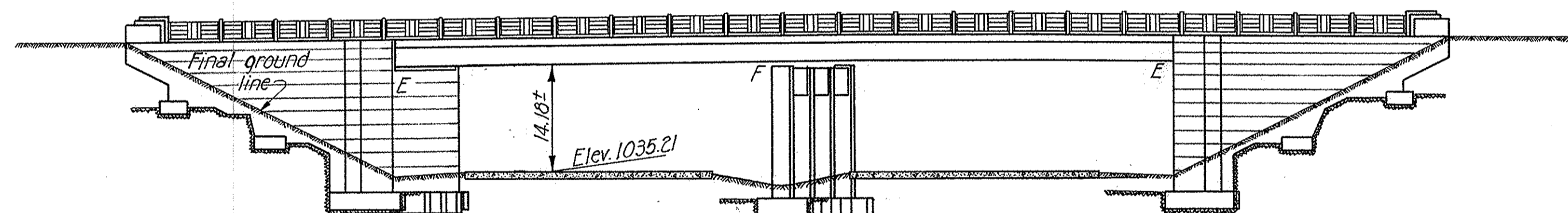
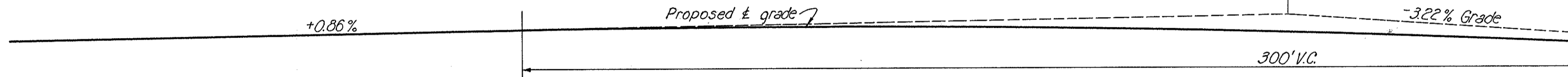
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KANSAS CITY, NEW YORK

766 SHEET-62

SUMMIT COUNTY CITY OF AKRON
AKRON EXPRESSWAY SYSTEM
EXPRESSWAY-PART 4
SUM-5-11.94



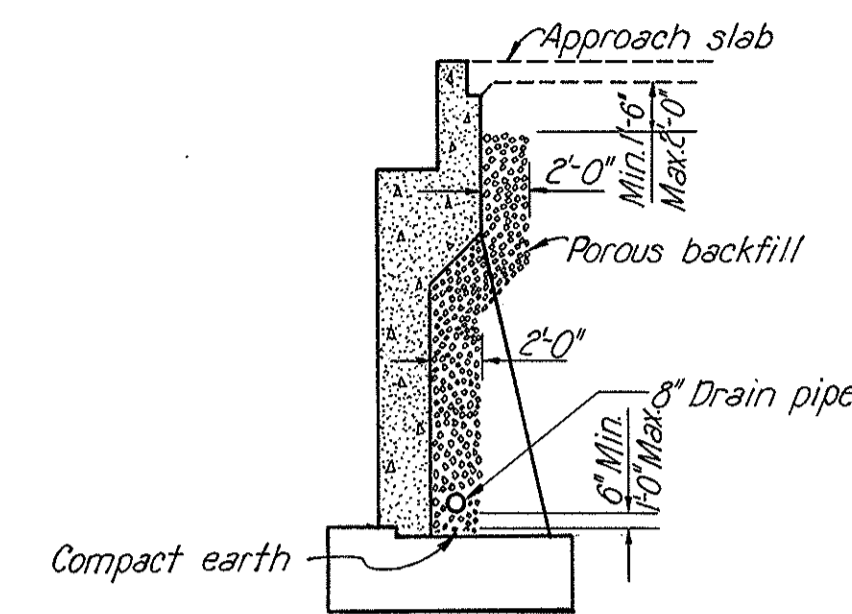
PLAN
Scale: 1/8" = 1'-0"



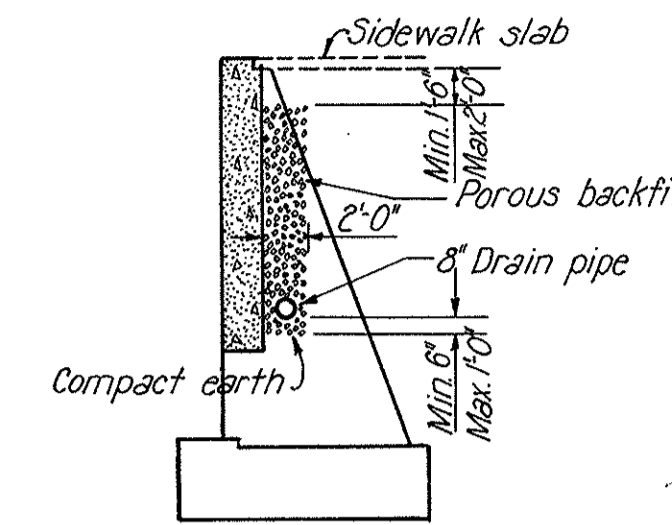
Note: Clearance of 14.18± is at \pm of Girder G under north curb.

ELEVATION
Scale: 1/8" = 1'-0"

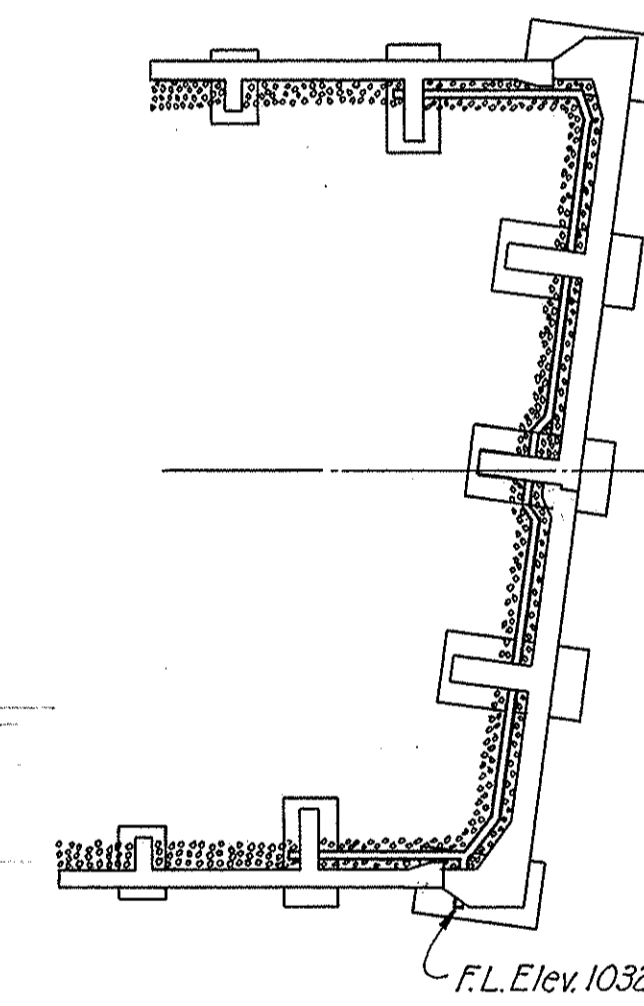
Care shall be taken, in installing the sewer, not to disturb the firm rock bearing required for the pier footings. Any rock thus disturbed shall be replaced with Class "C" concrete at the Contractors expense.



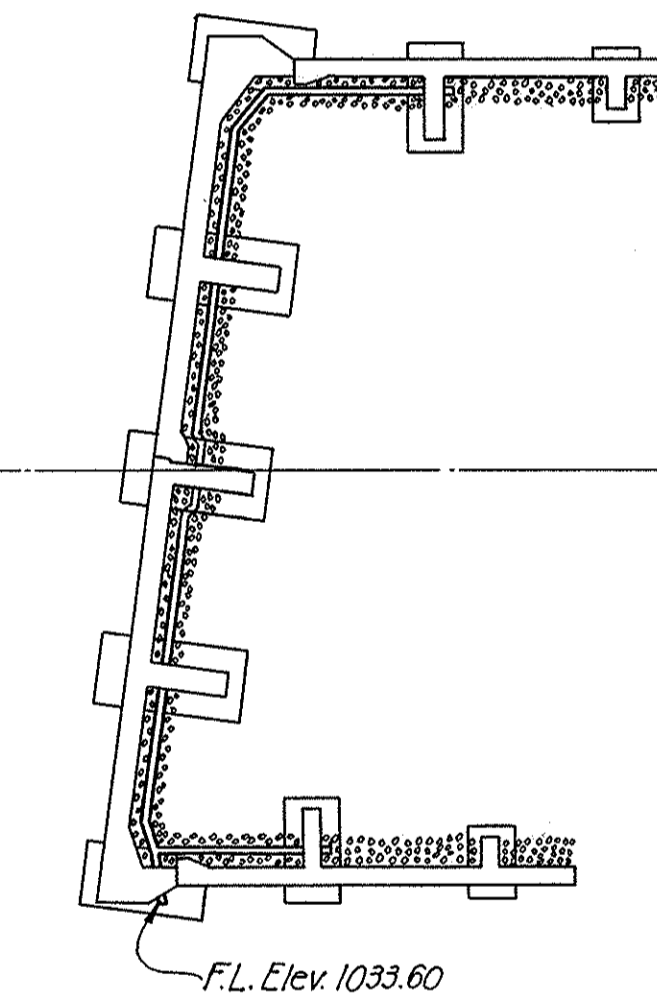
ABUTMENT SECTION
Not to Scale



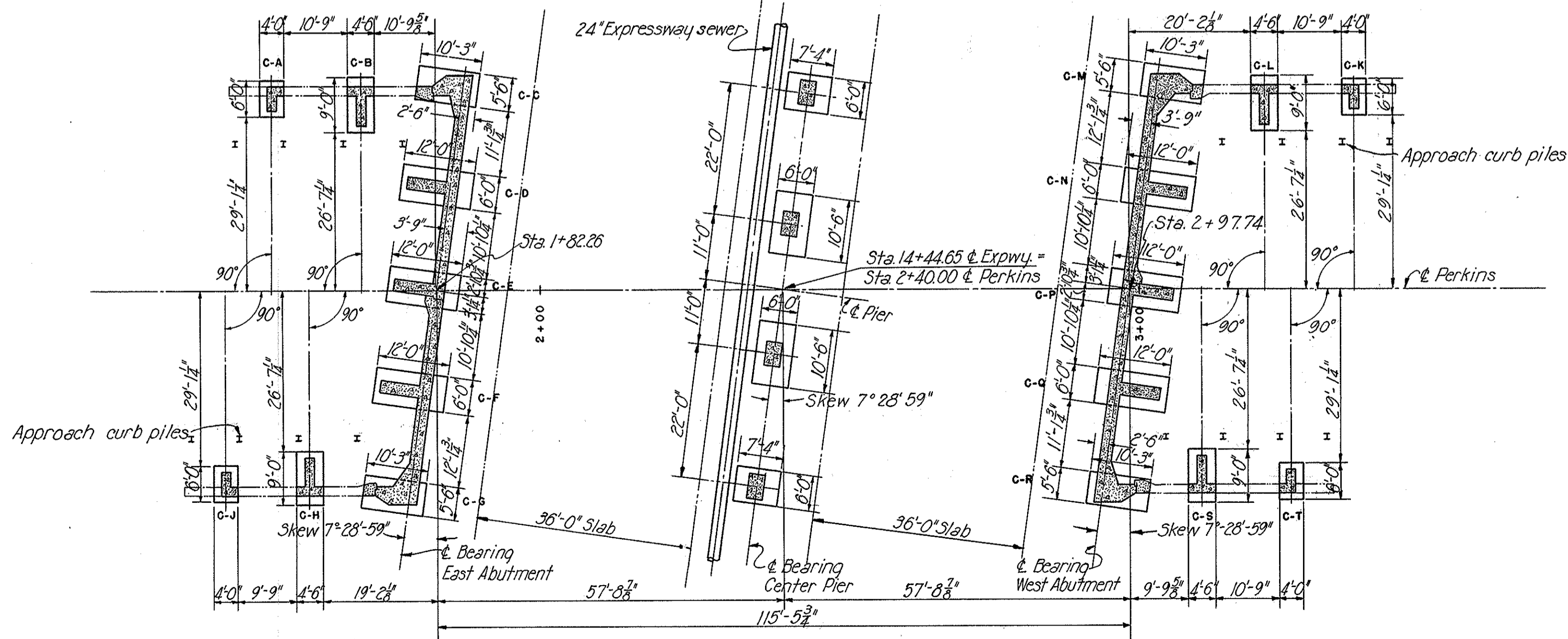
WINGWALL SECTION
Not to Scale



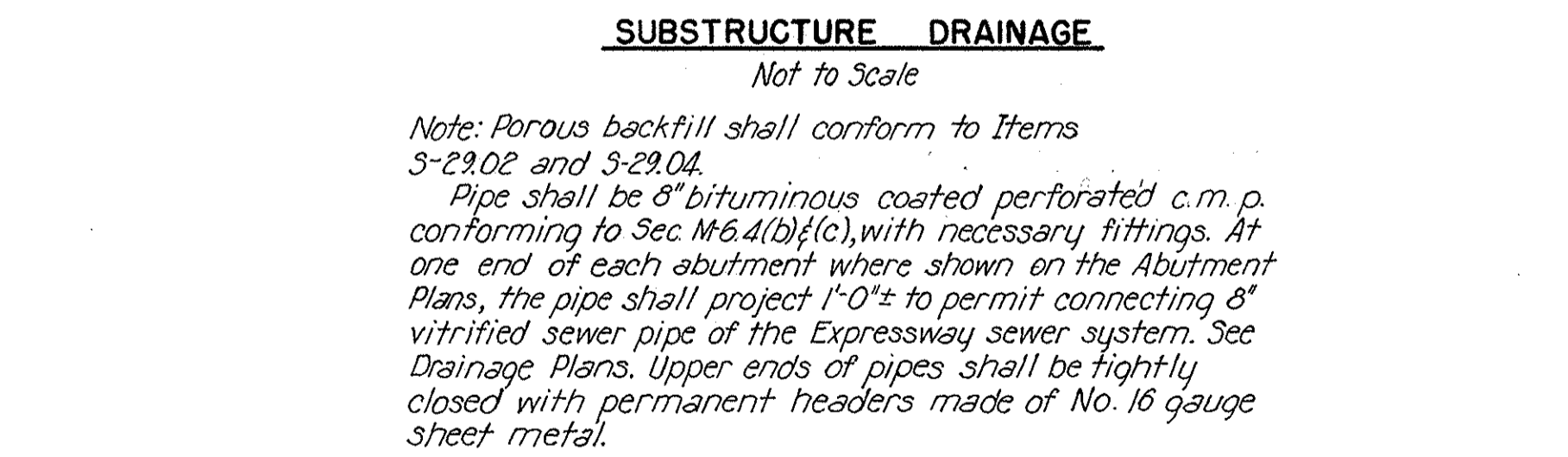
EAST ABUTMENT PLAN



WEST ABUTMENT PLAN



FOOTING PLAN
Scale: 1/8" = 1'-0"



SUBSTRUCTURE DRAINAGE
Not to Scale

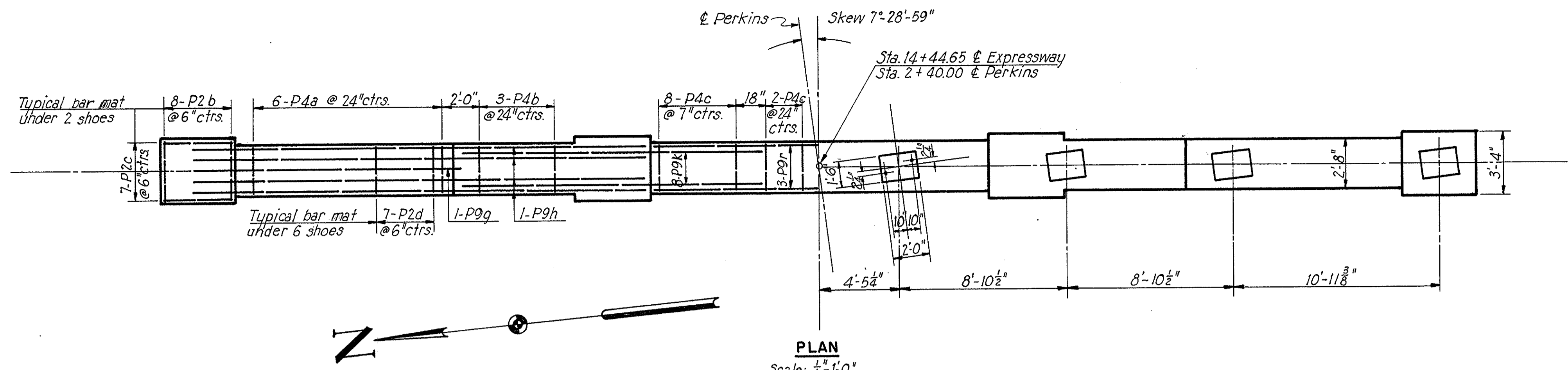
Note: Porous backfill shall conform to Items S-29.02 and S-29.04.
Pipe shall be 8" bituminous coated perforated c.m.p. conforming to Sec M6.4(b)(c), with necessary fittings. At one end of each abutment where shown on the Abutment Plans, the pipe shall project 1'-0"± to permit connecting 8" vitrified sewer pipe of the Expressway sewer system. See Drainage Plans. Upper ends of pipes shall be tightly closed with permanent headers made of No. 10 gauge sheet metal.

STATE OF OHIO DEPARTMENT OF HIGHWAYS BUREAU OF BRIDGES	
AKRON EXPRESSWAY SYSTEM (EAST MARKET STREET TO EAST CUYAHOGA FALLS AVENUE) PERKINS UNDERPASS BR. NO. SU-5-122	
GENERAL PLAN AND ELEVATION	
AKRON, SUMMIT COUNTY, OHIO	
SCALE: 1/8" = 1'-0" MADE PER DATE 8-19-50 TRCD PER DATE 8-19-50 CKD DMD DATE 12-6-50	HOWARD, NEEDLES, TAMMEN & BERGENOFF CONSULTING ENGINEERS KANSAS CITY NEW YORK 766 SHEET-63

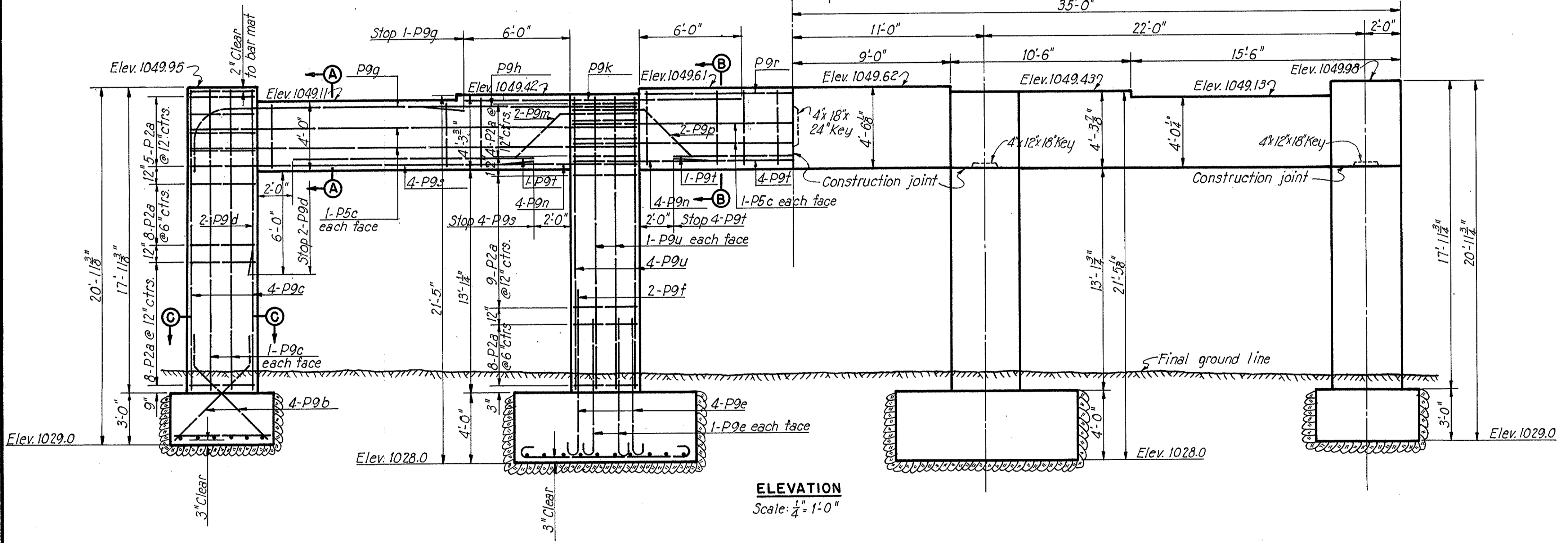
Revised 11-10-50

SUMMIT COUNTY CITY OF AKRON
AKRON EXPRESSWAY SYSTEM
EXPRESSWAY-PART 4
SUM-5-11.94

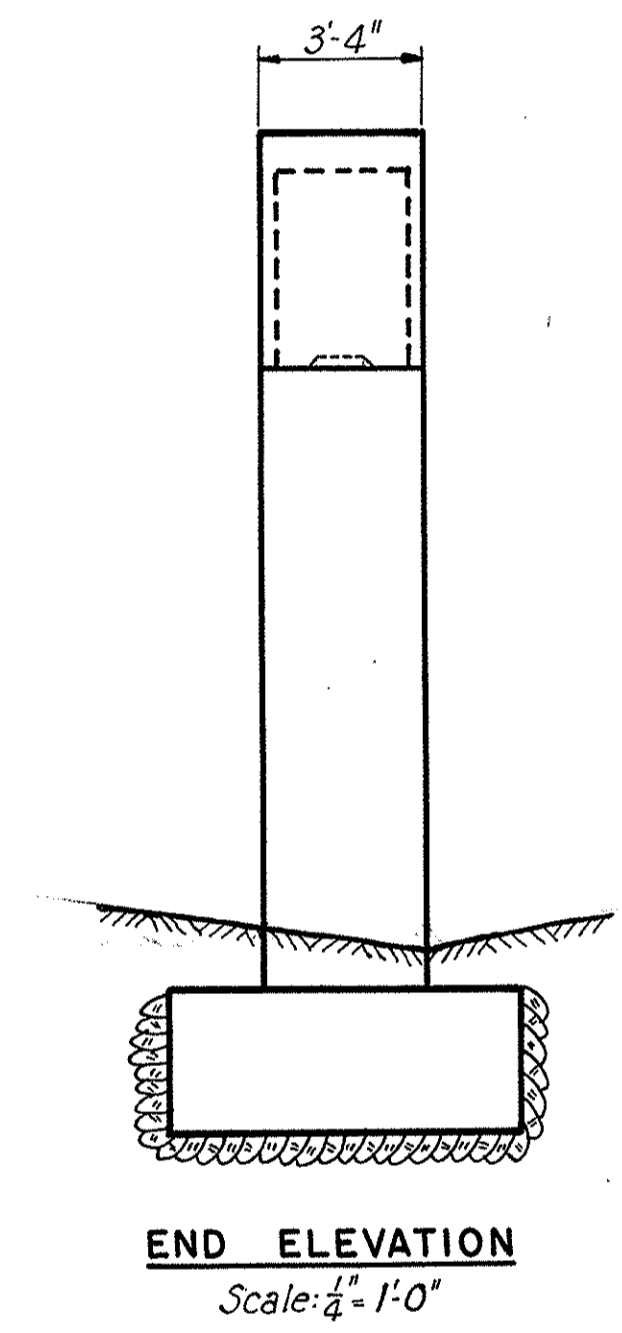
Note:
Special care shall be taken in placing top reinforcing steel so that it will not interfere with drilling for anchor bolt holes.



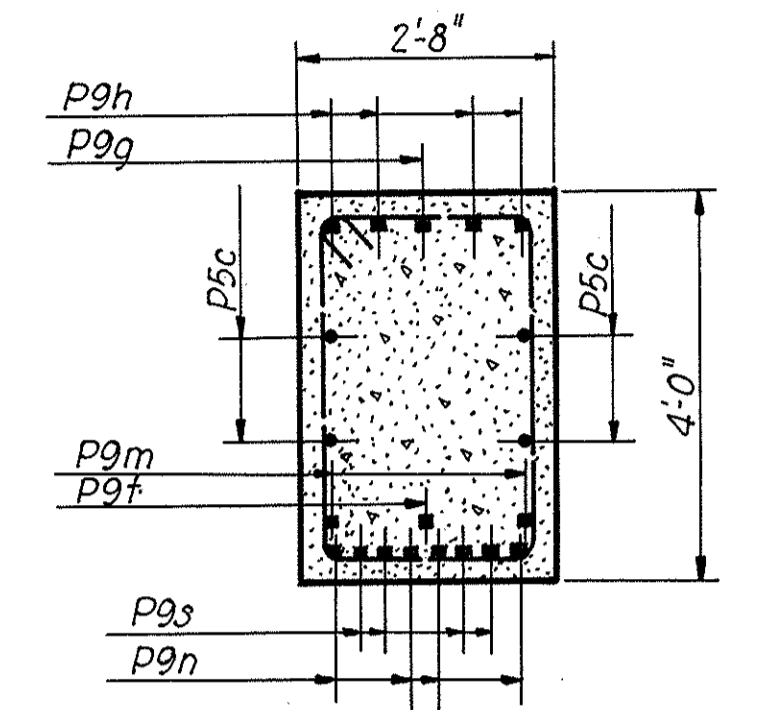
PLAN
Scale: 1/4" = 1'-0"
Symmetrical about ϕ except as shown



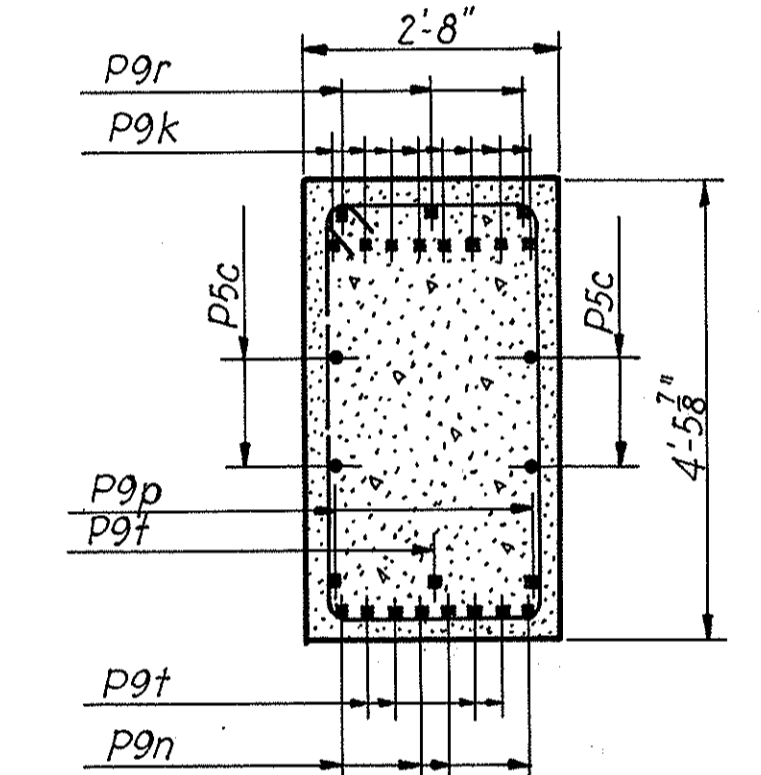
ELEVATION
Scale: 1/4" = 1'-0"



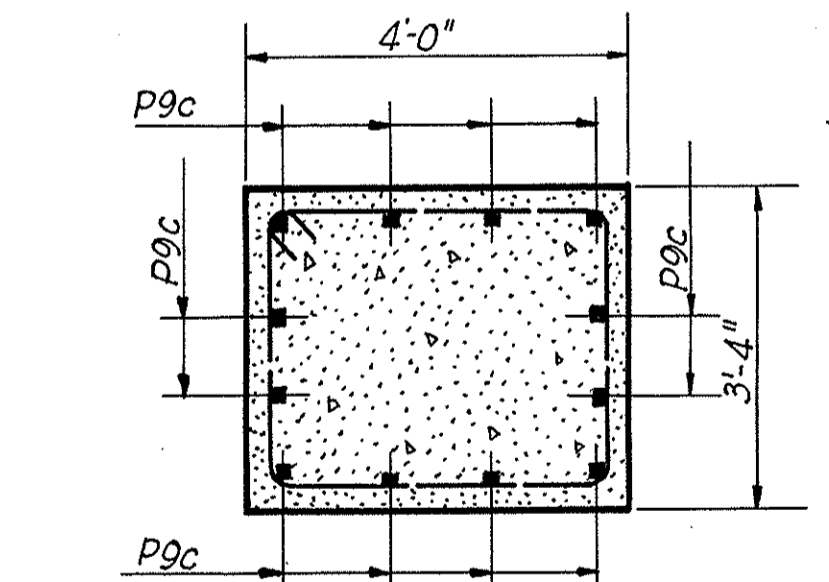
END ELEVATION
Scale: 1/4" = 1'-0"



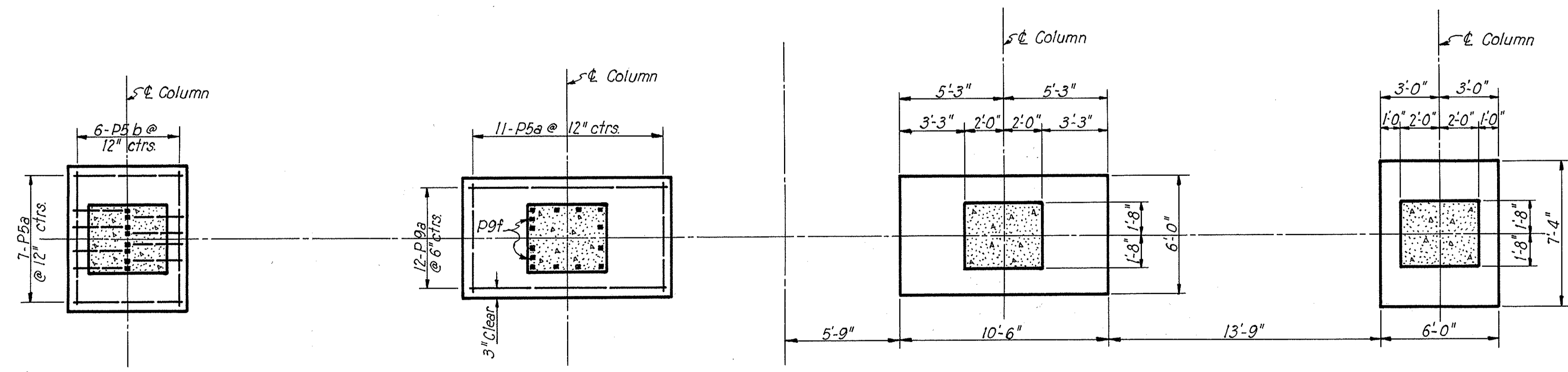
SECTION A-A
Scale: 1/2" = 1'-0"



SECTION B-B
Scale: 1/2" = 1'-0"



SECTION C-C
Scale: 1/2" = 1'-0"



FOOTING PLAN
Scale: 1/4" = 1'-0"

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

AKRON EXPRESSWAY SYSTEM
(EAST MARKET STREET TO EAST CUYAHOGA FALLS AVENUE)
PERKINS UNDERPASS
BR. NO. SU-5-122

CENTER PIER

AKRON, SUMMIT COUNTY, OHIO

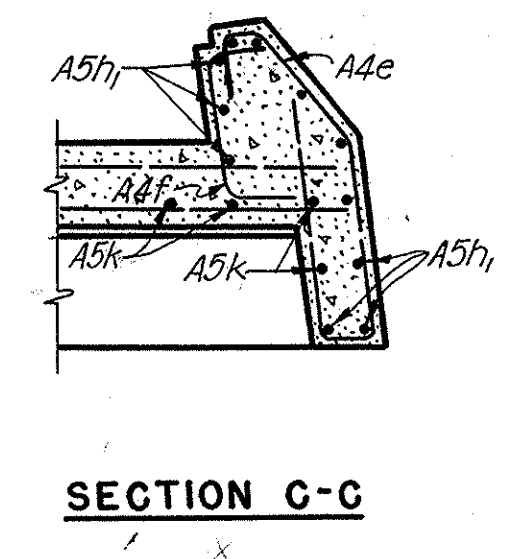
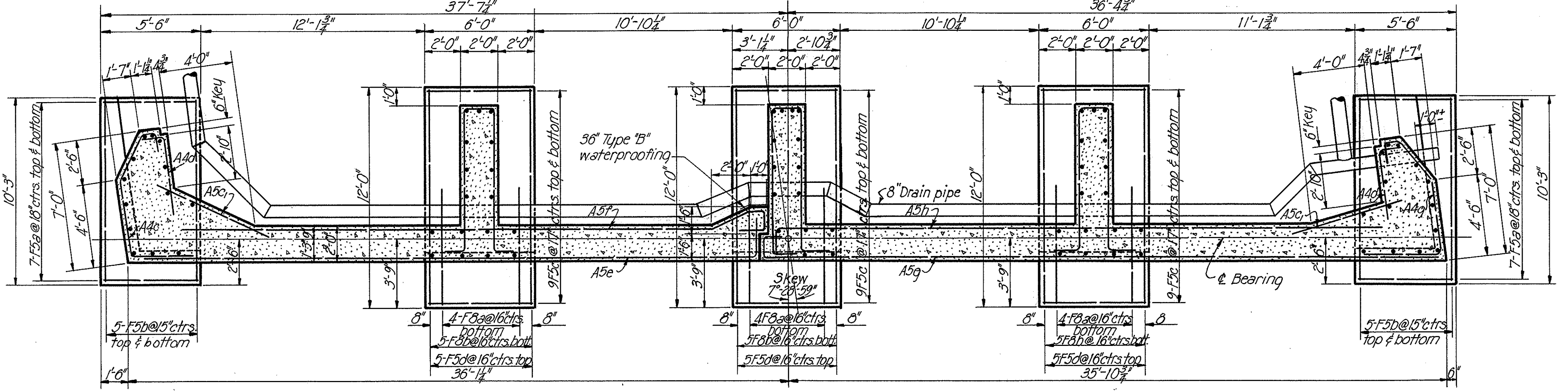
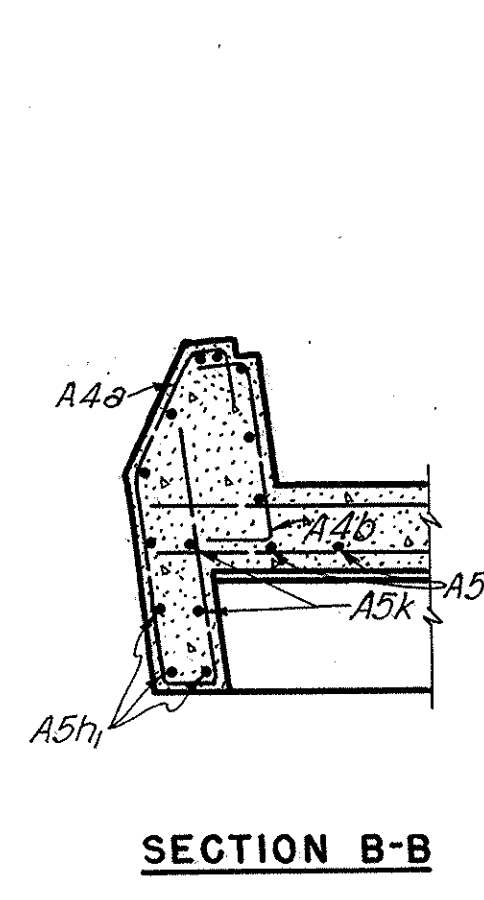
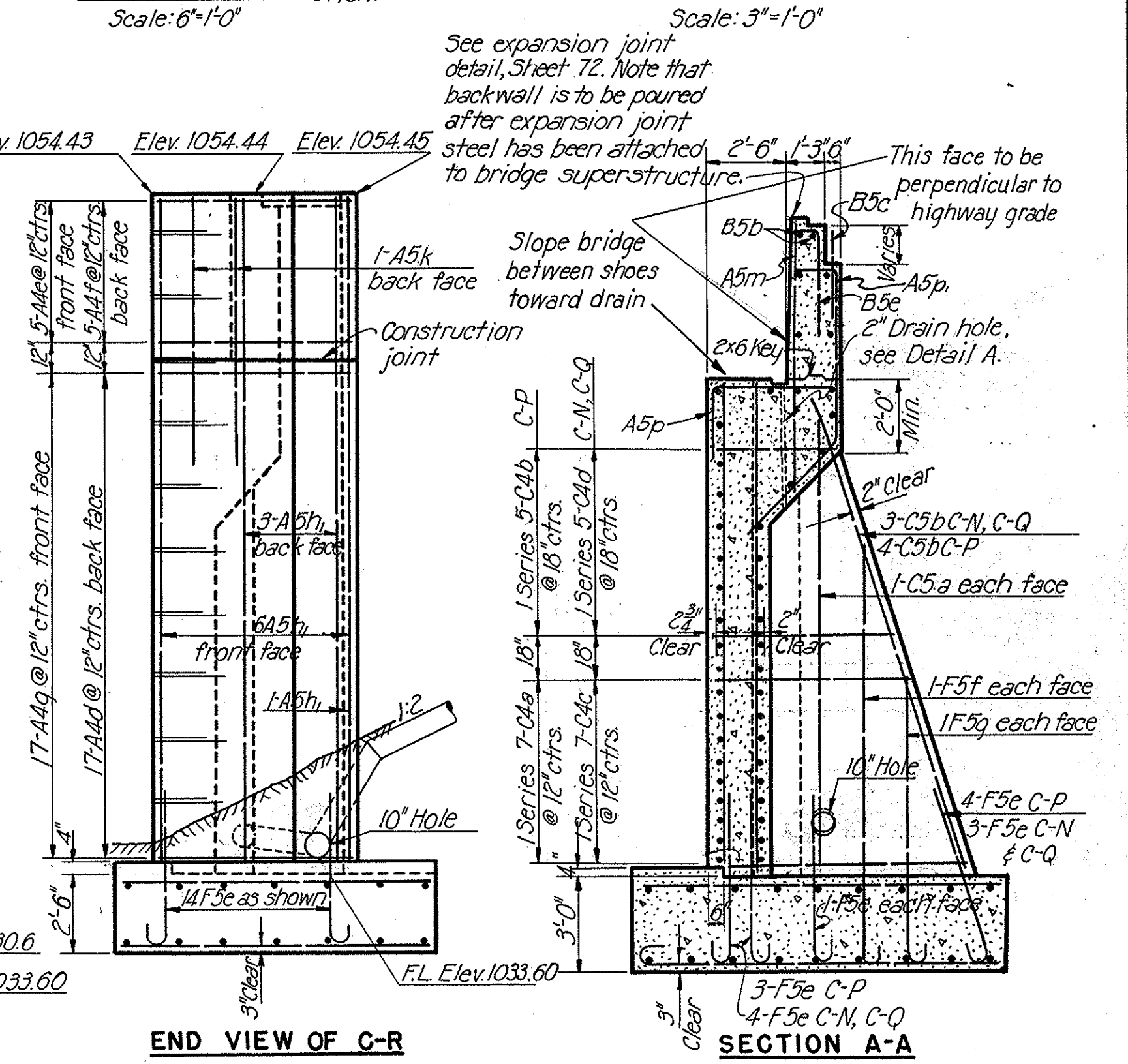
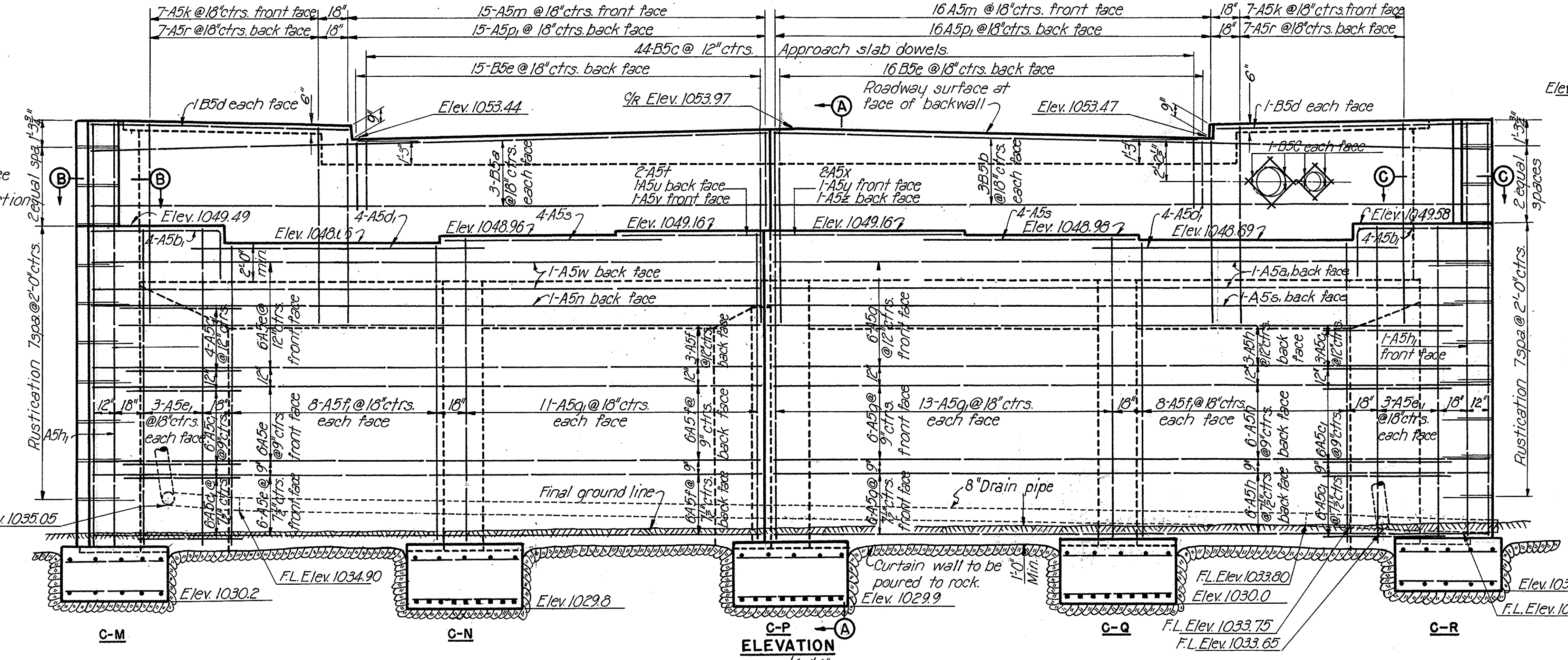
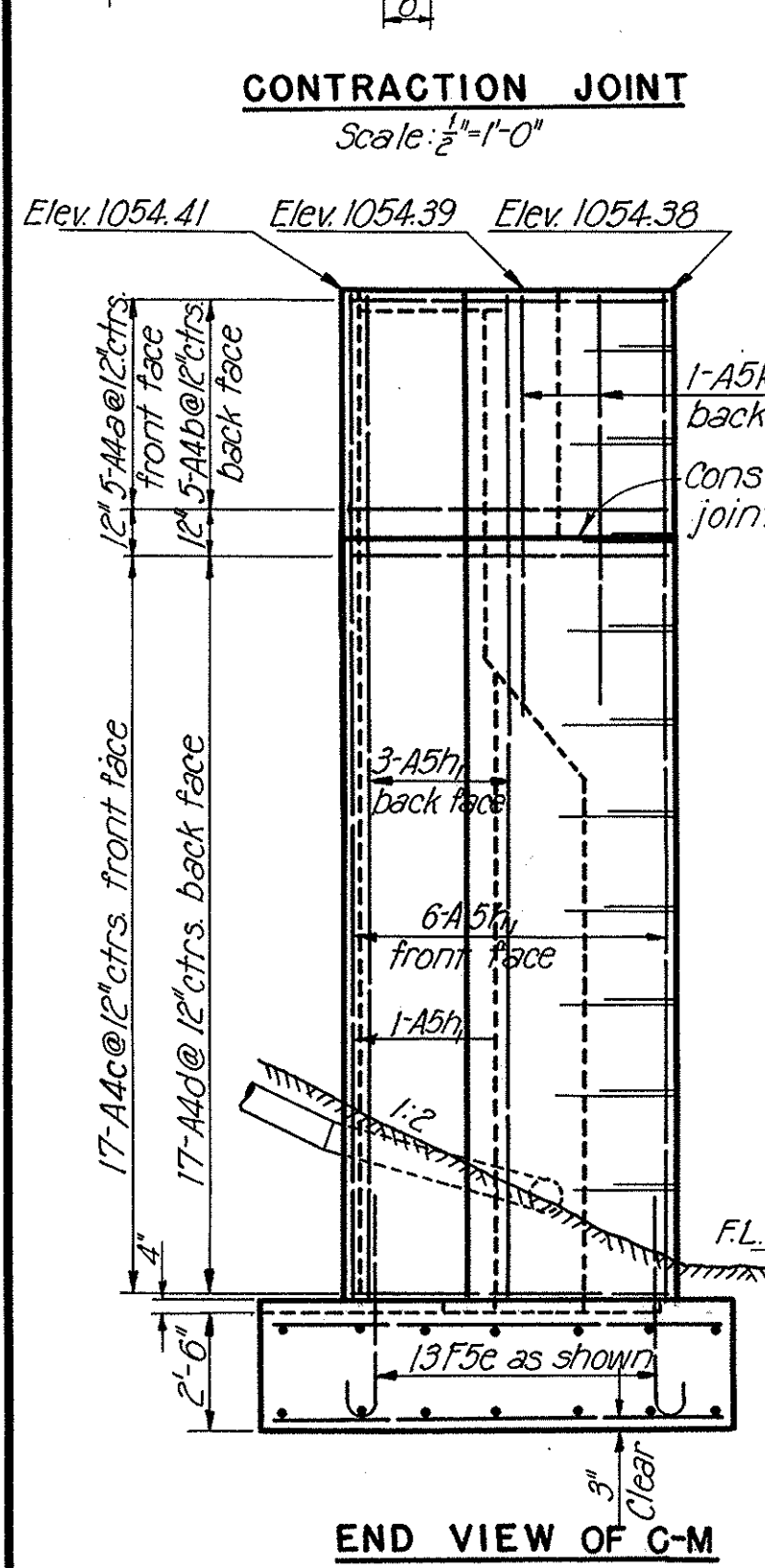
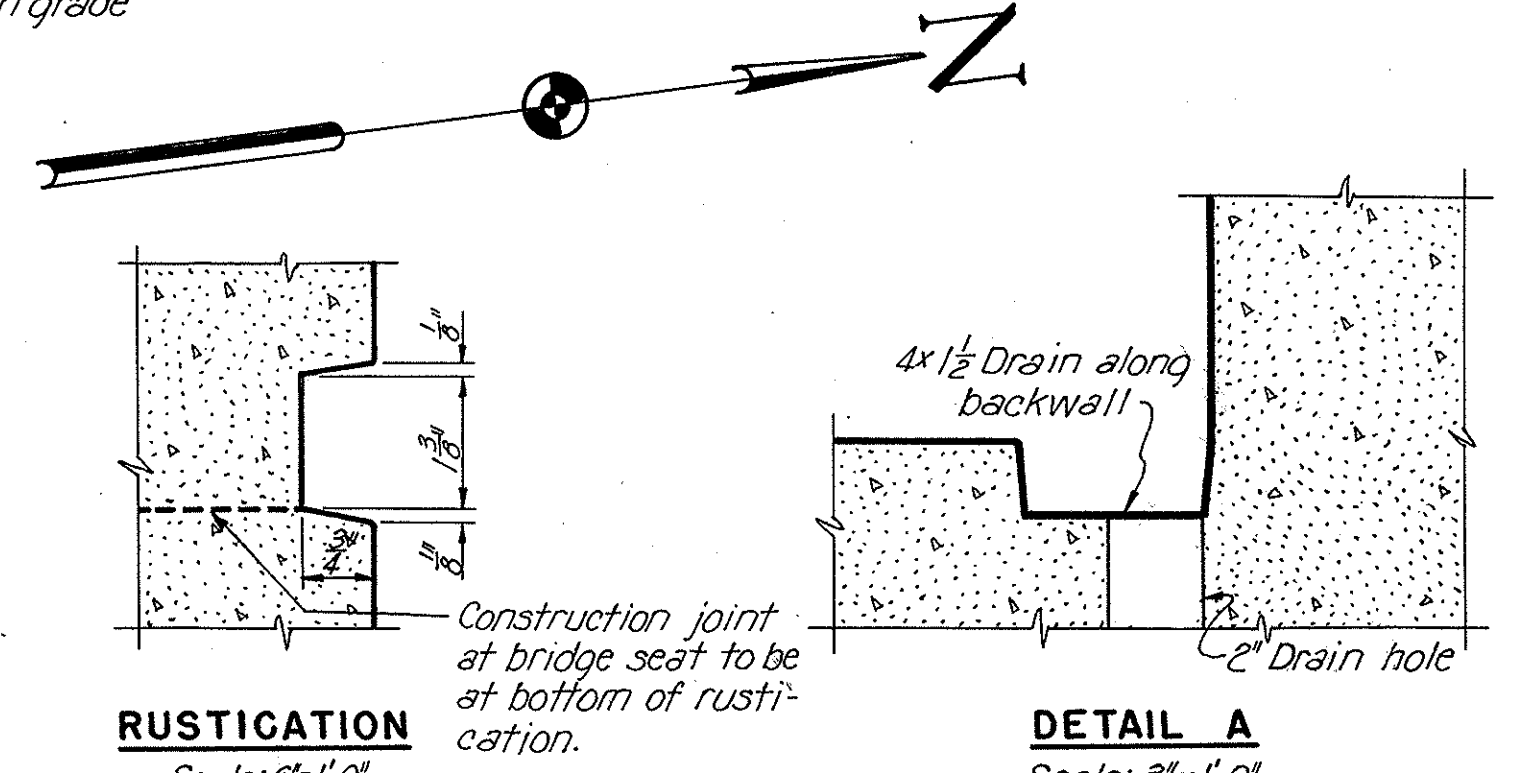
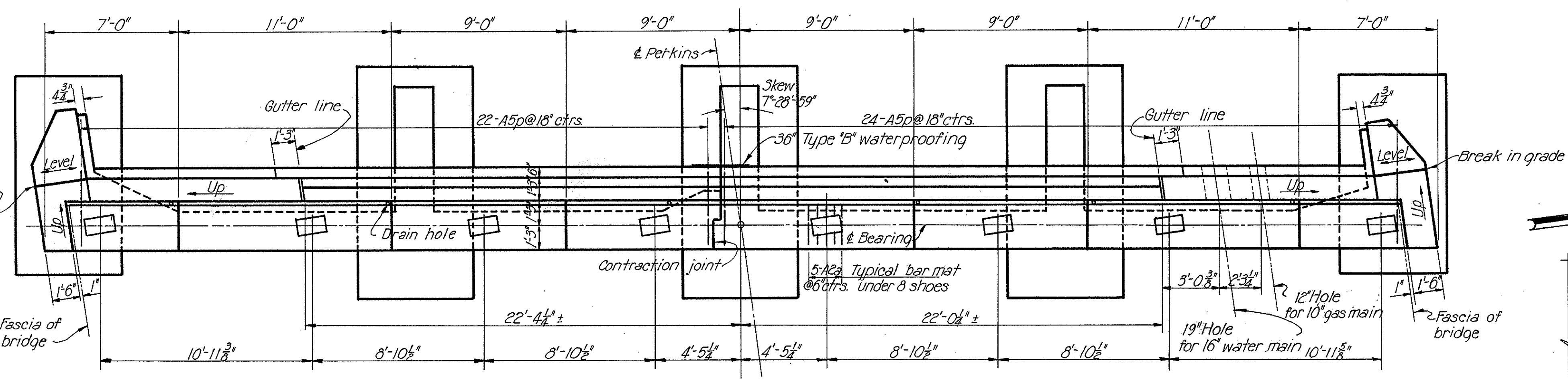
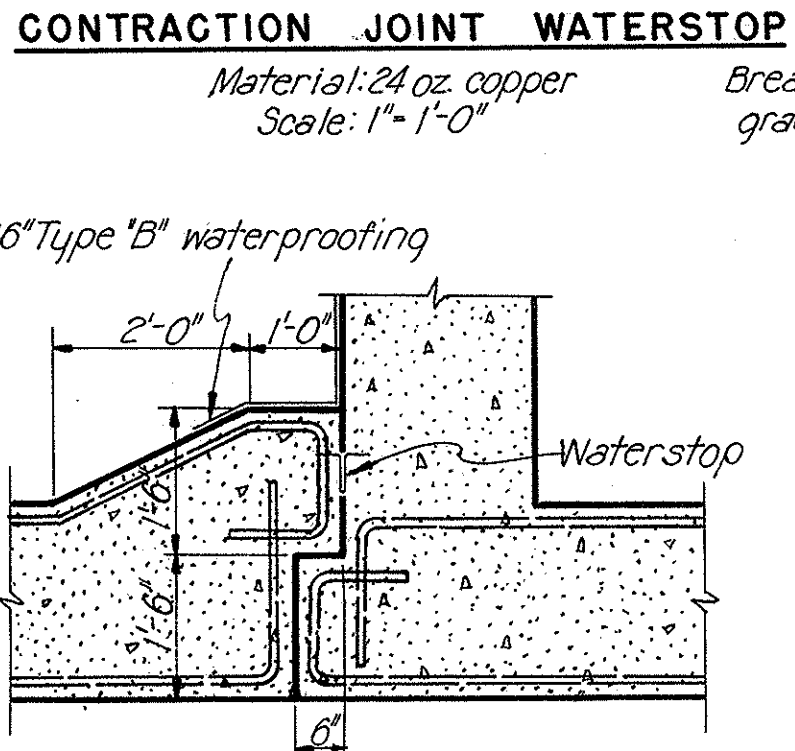
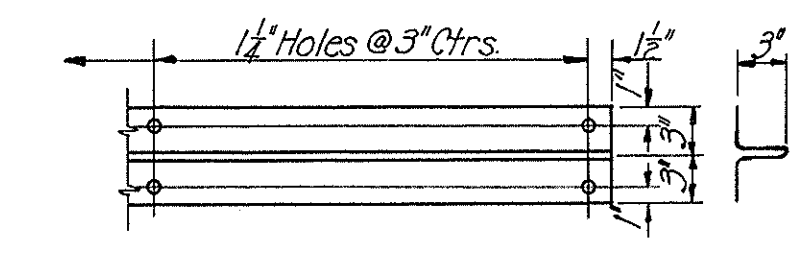
SCALE: 1/4" = 1'-0"
MADE J.W.C. DATE 8-7-50
TRCD J.W.C. DATE 8-24-50
CKD A.E.P. DATE 8-18-50

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766 SHEET-64

704

SUMMIT COUNTY CITY OF AKRON
AKRON EXPRESSWAY SYSTEM
EXPRESSWAY-PART 4
SUM-5-11.94



STATE OF OHIO
 DEPARTMENT OF HIGHWAYS
 BUREAU OF BRIDGES

AKRON EXPRESSWAY SYSTEM
 (EAST MARKET STREET TO EAST CUYAHOGA FALLS AVENUE)
 PERKINS UNDERPASS
 BR. NO. SU-5-122

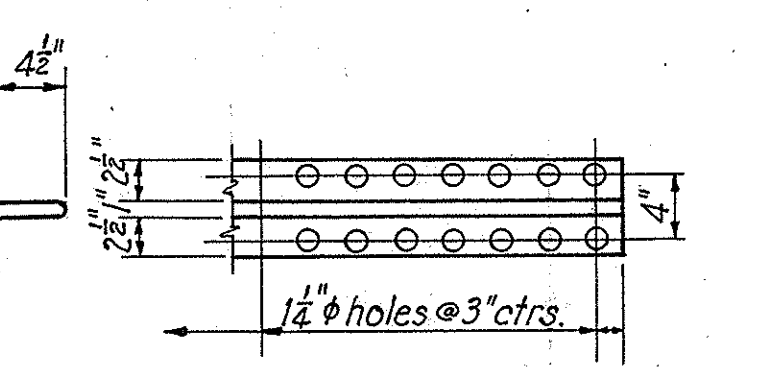
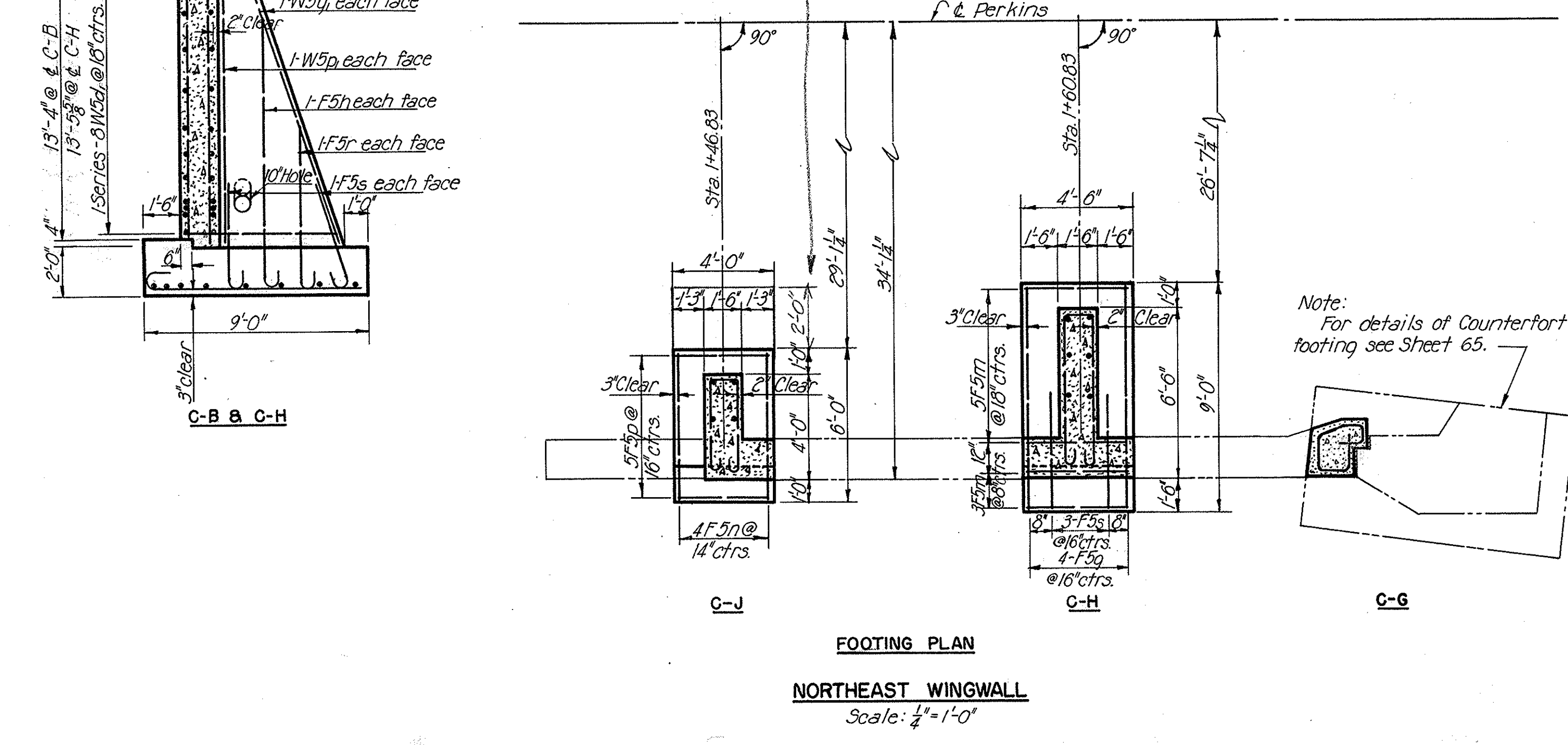
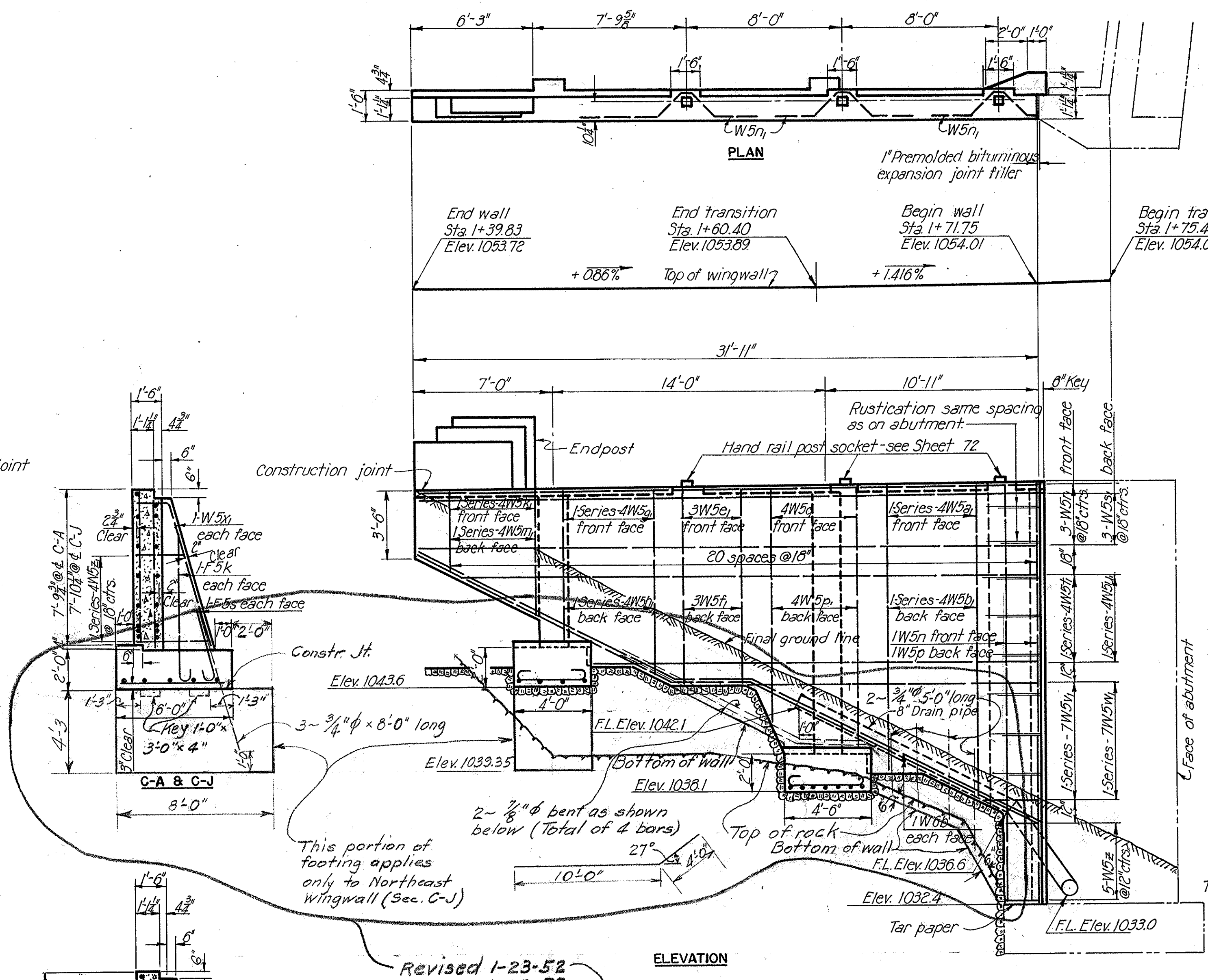
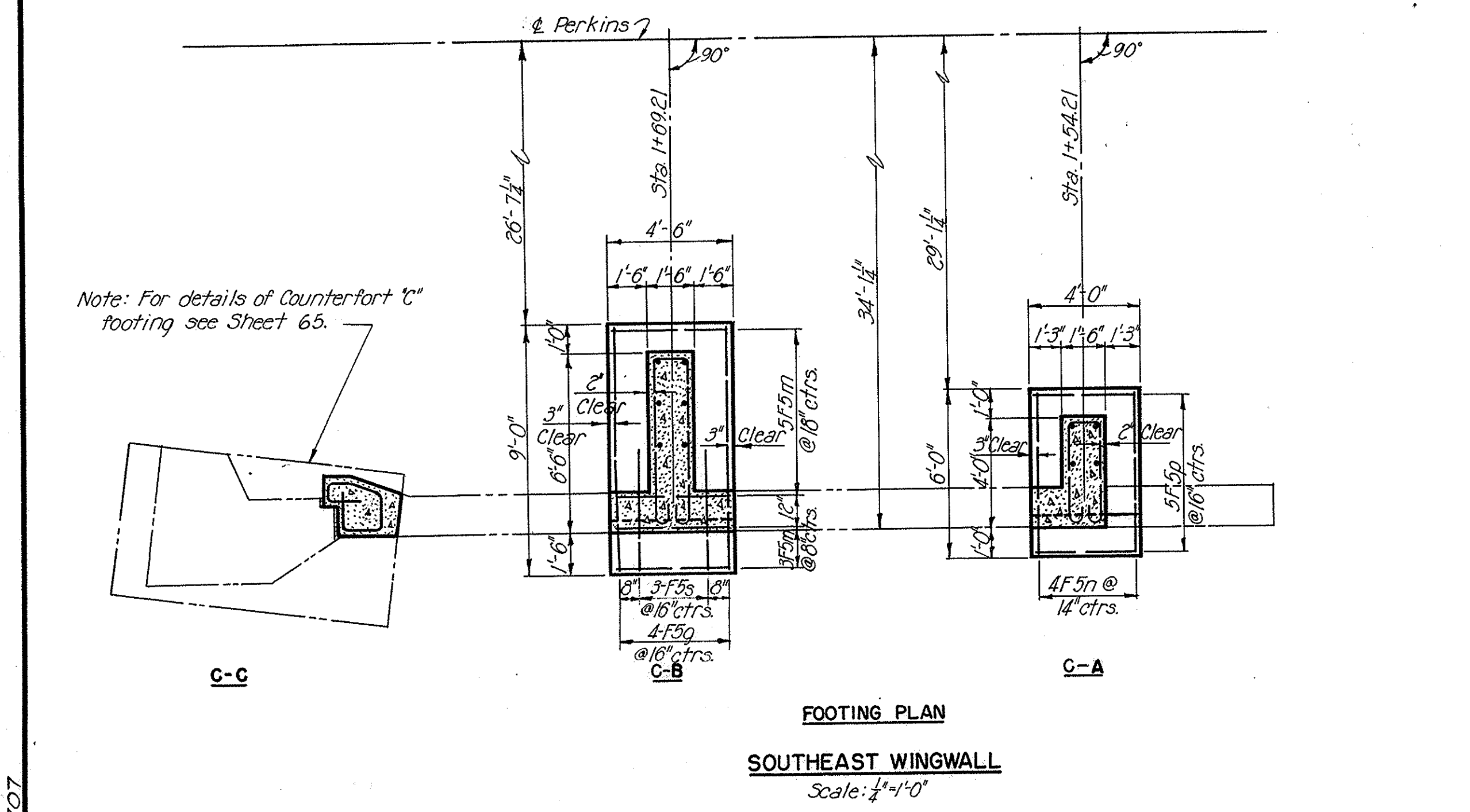
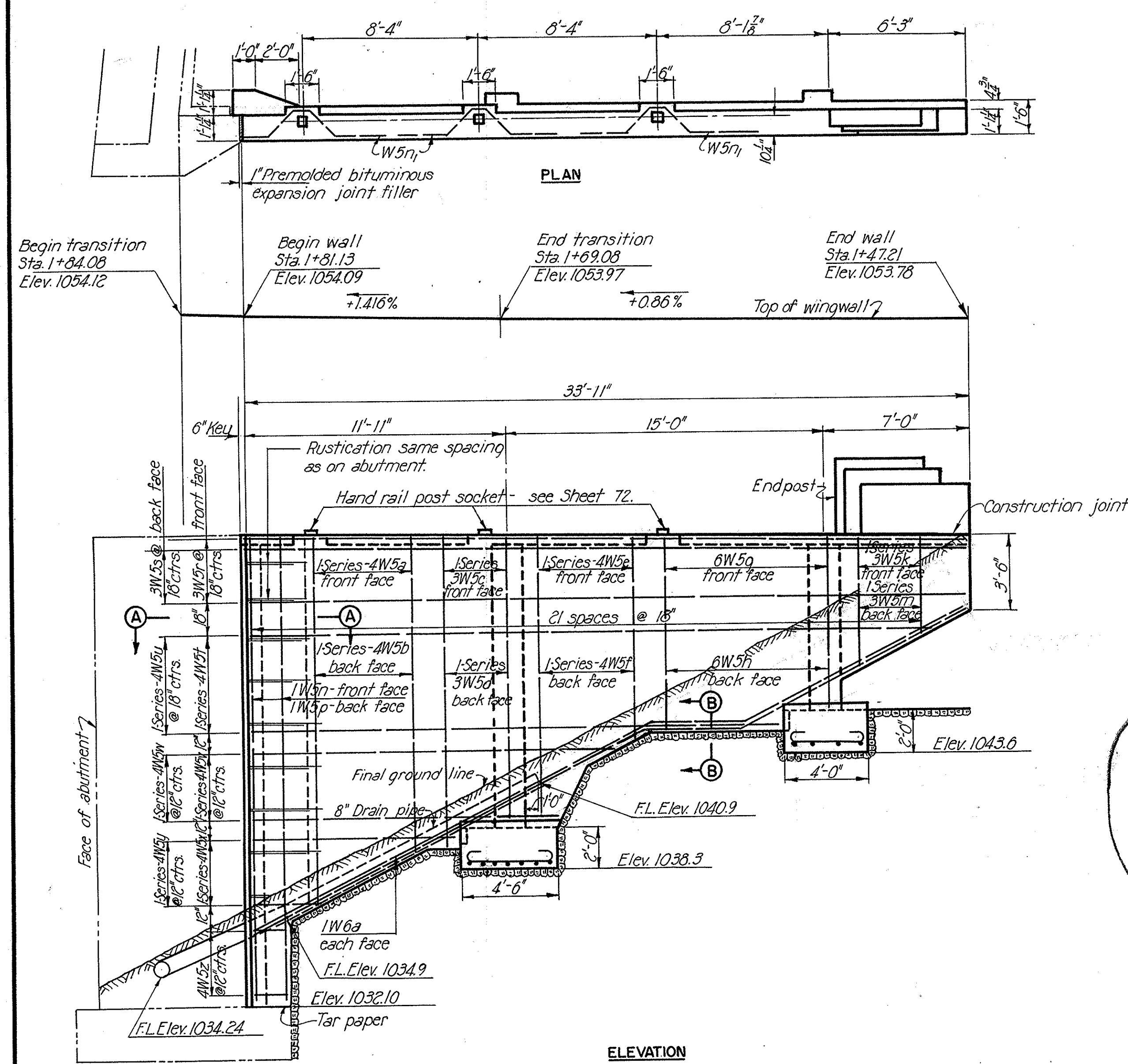
WEST ABUTMENT
 AKRON, SUMMIT COUNTY, OHIO

SCALE: 1/4"=1'-0"
 MADE: 11/16/50 DATE: 8-3-50
 TRCD: 11/16/50 DATE: 8-16-50
 CKD: A.C.R. DATE: 8-16-50

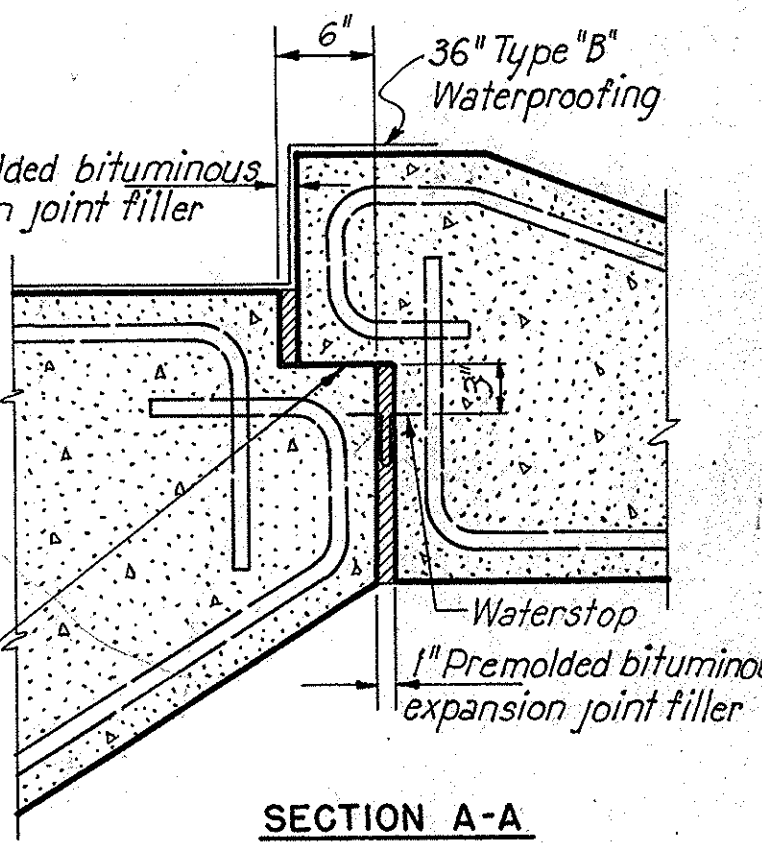
HOWARD, NEEDLES, TAMMEN & BERGENDOFF
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 766 SHEET-66

FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.	TYPE FUNDS	POST WAR
2	OHIO	U-687(7)		67 74

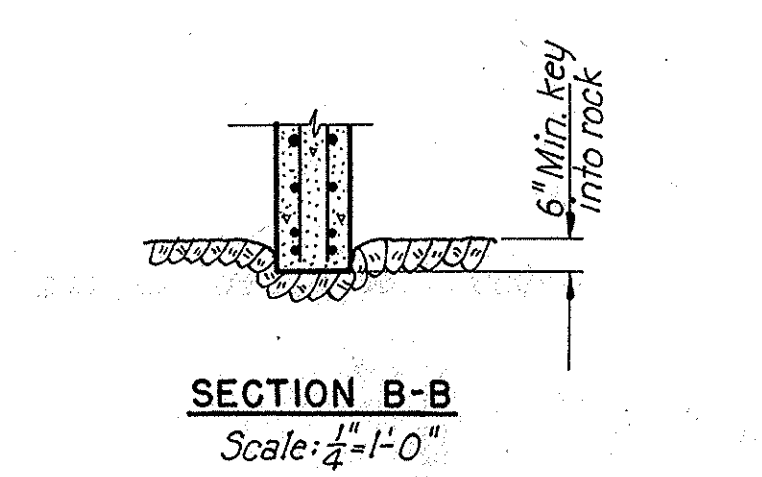
SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM
EXPRESSWAY-PART 4
SUM-5-11.94



EXPANSION JOINT WATERSTOP
Scale: 1/4"=1'-0"
Material: 24 oz. copper



SECTION A-A
Scale: 1"=1'-0"



SECTION B-B
Scale: 1/4"=1'-0"

Note: For endpost details, see Sheet 72.
For drainage details, see Sheet 63.

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

AKRON EXPRESSWAY SYSTEM
(EAST MARKET STREET TO EAST CUYAHOGA FALLS AVENUE)
PERKINS UNDERPASS
BR. NO. SU-5-122

EAST WINGWALLS
AKRON, SUMMIT COUNTY, OHIO

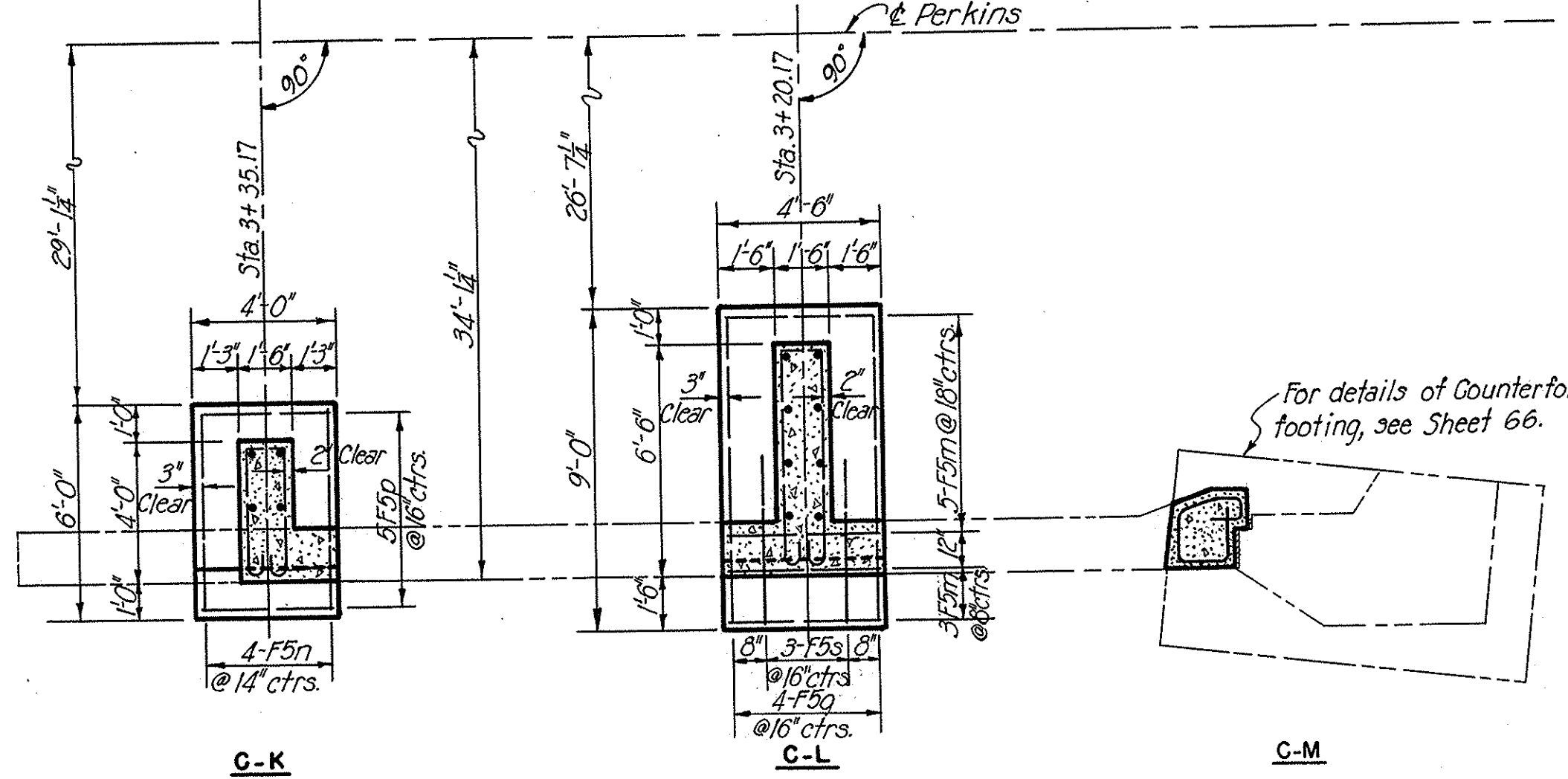
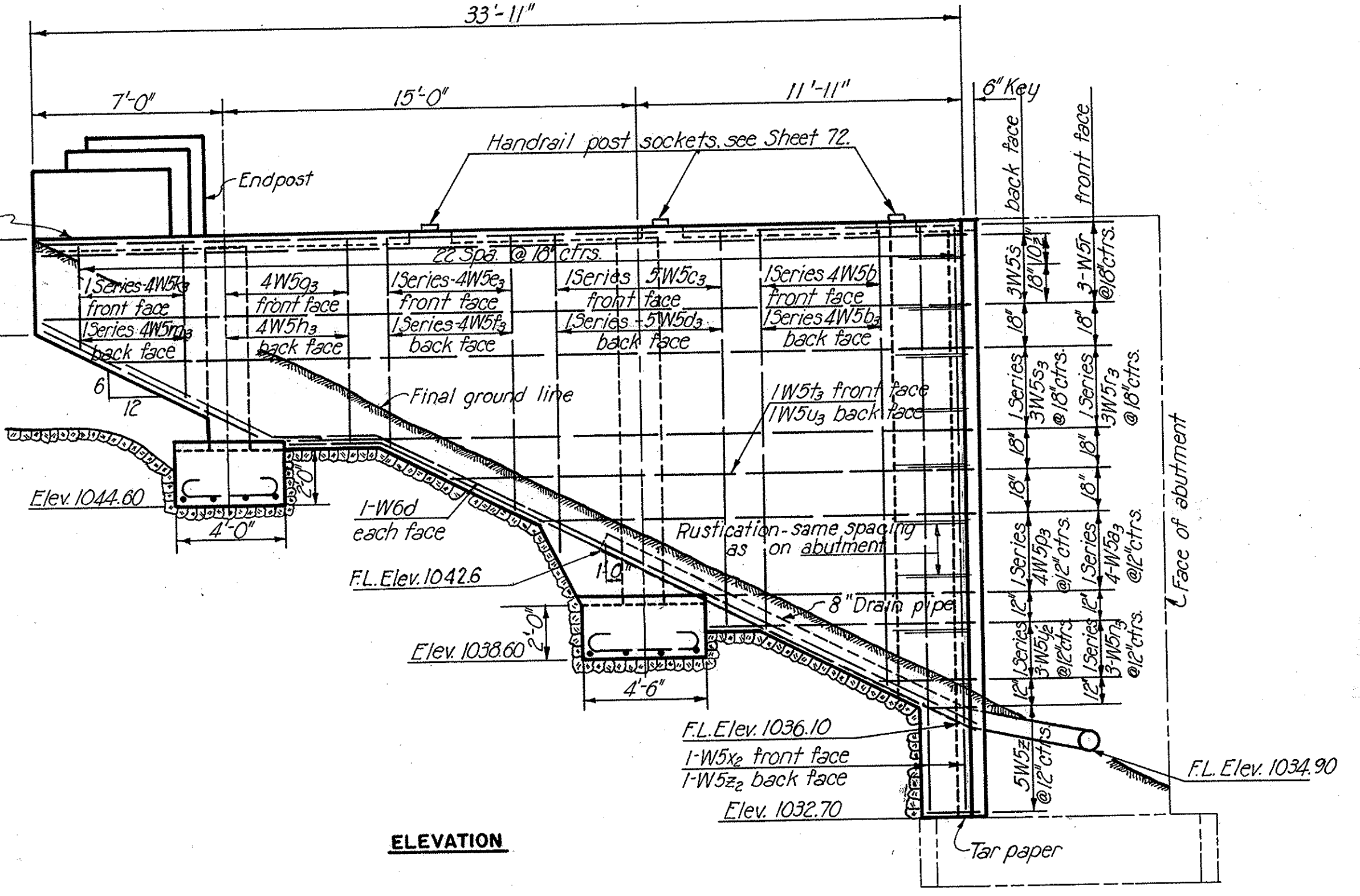
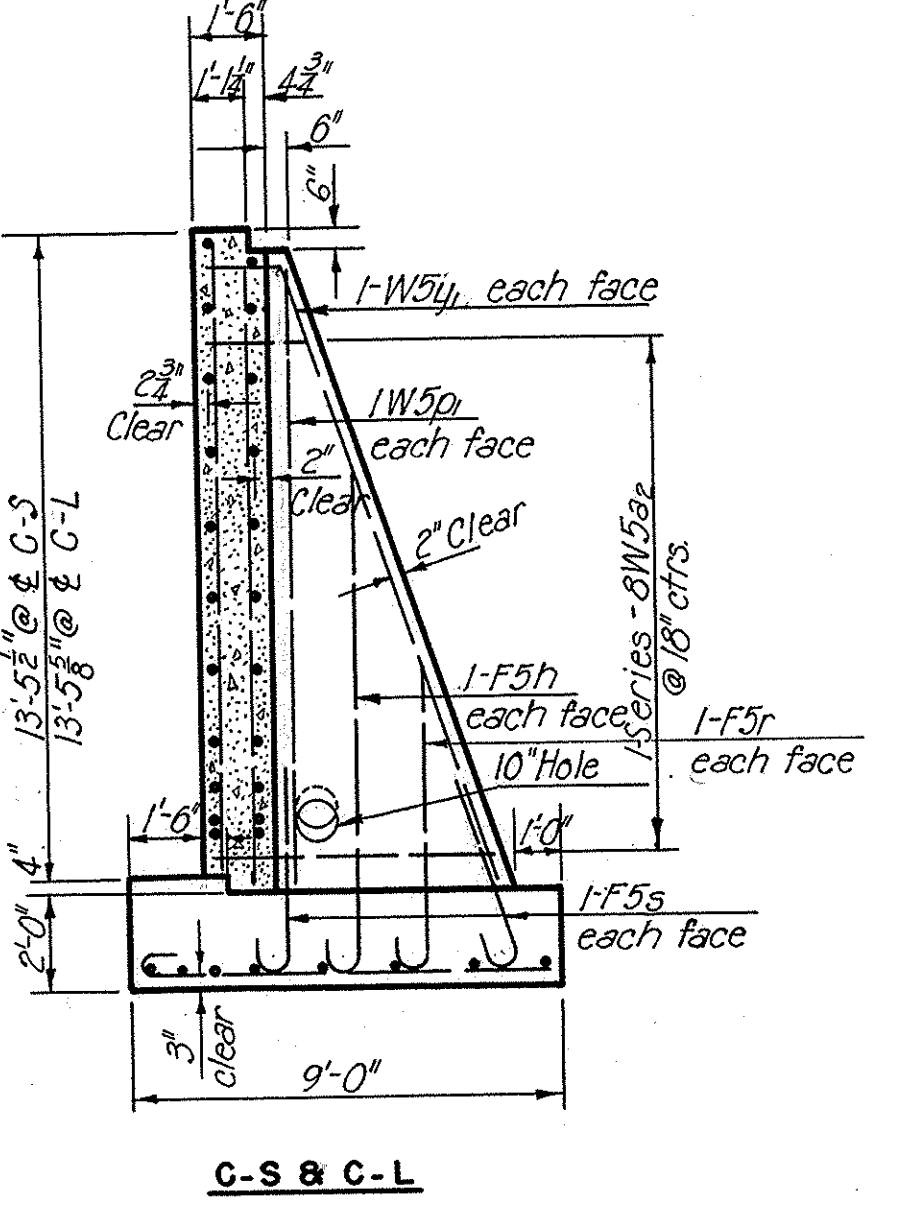
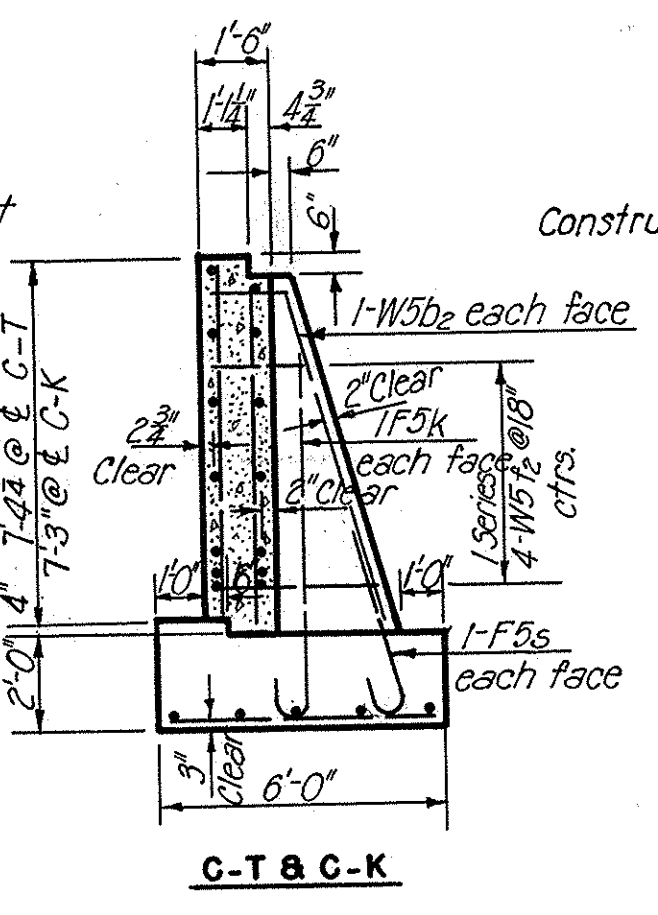
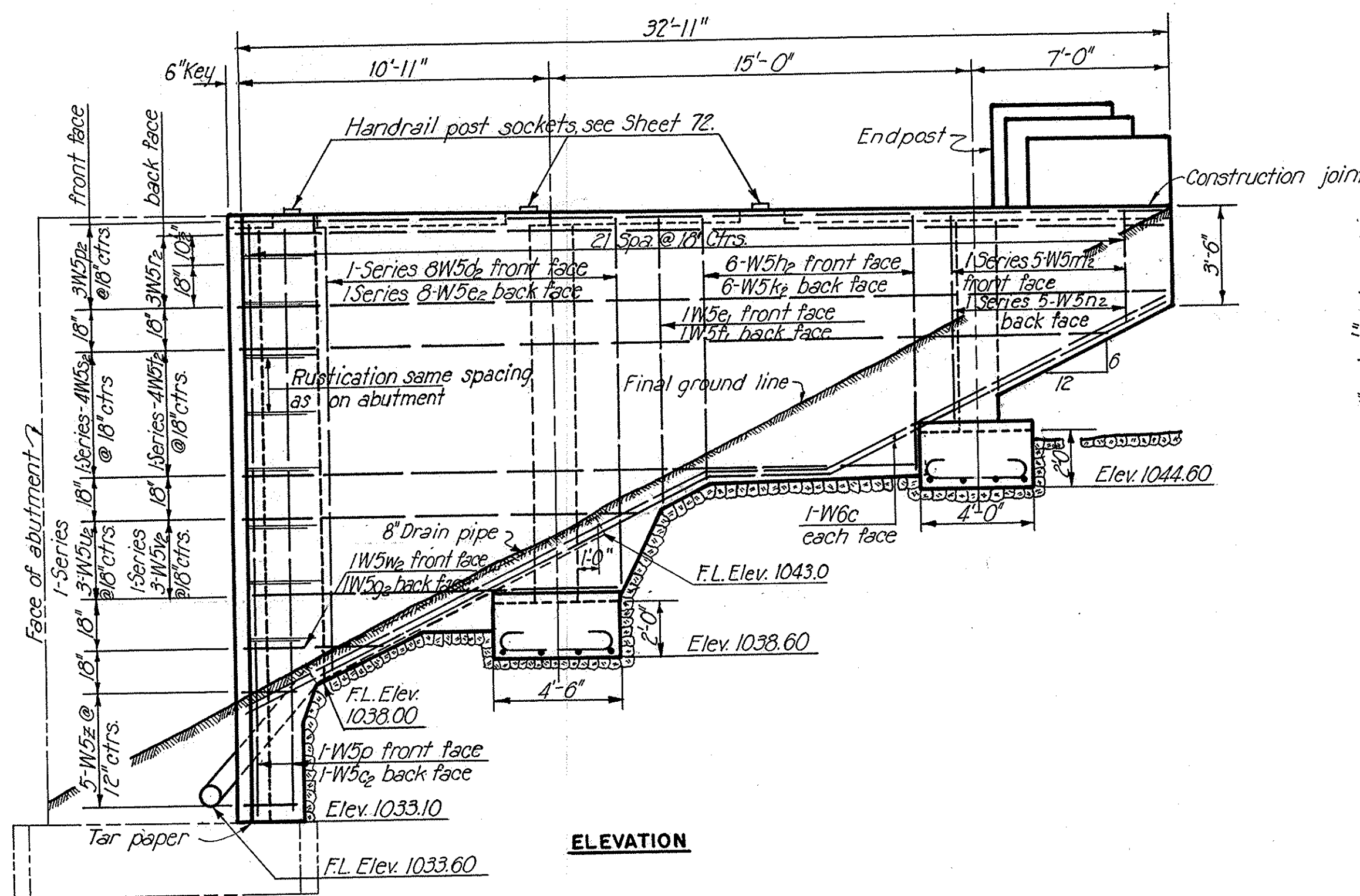
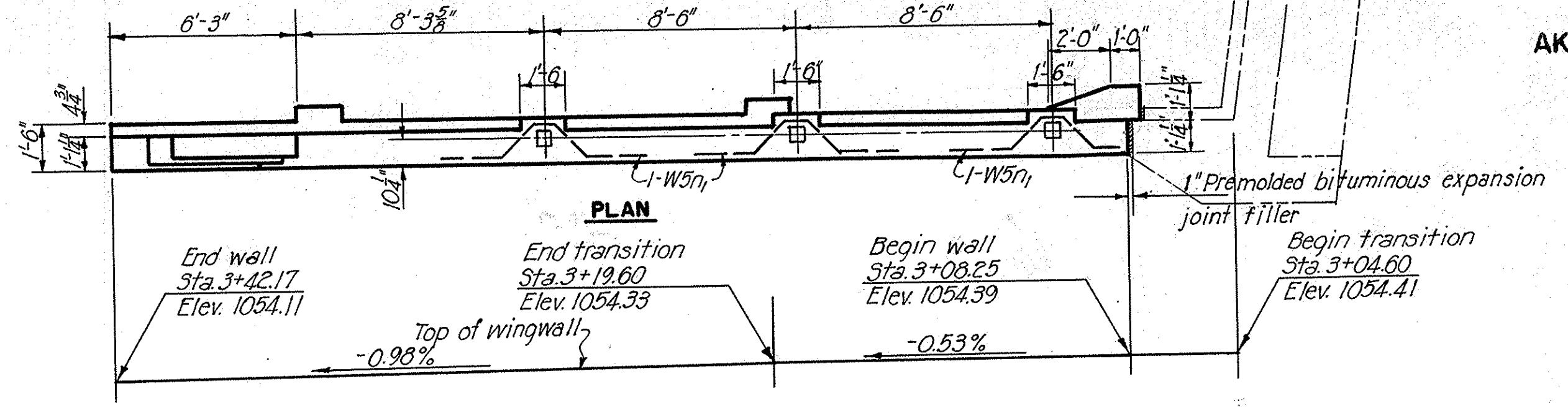
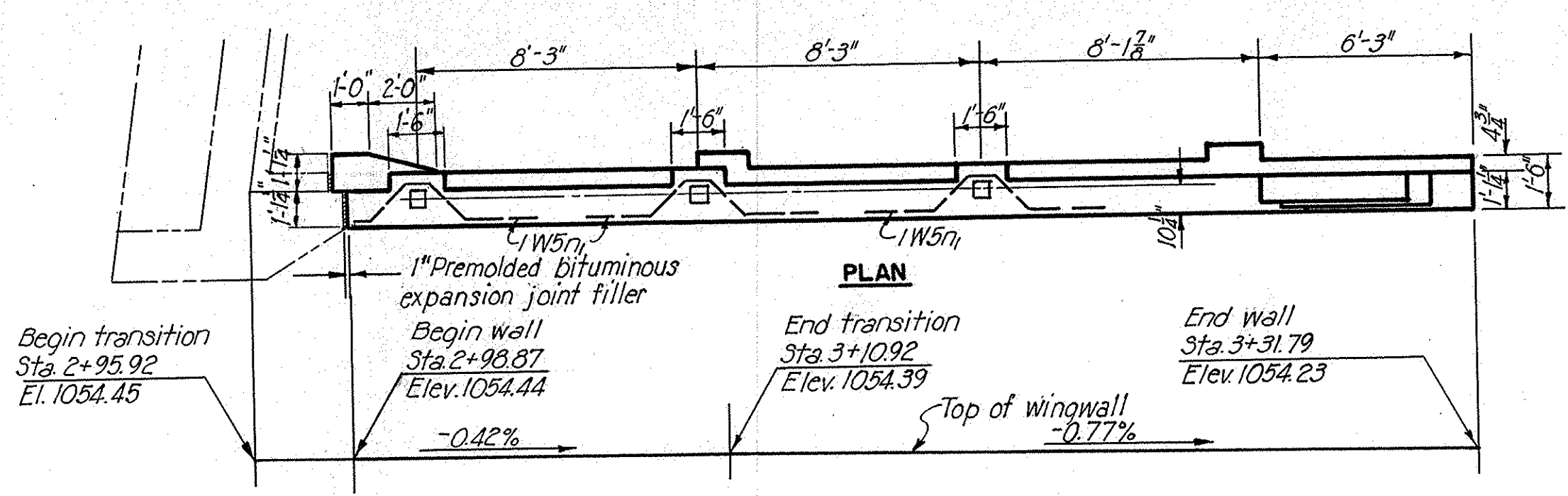
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MADE DRAWING DATE: 8-11-50
TRCD: HAN: RB: DATE: 8-23-50
CKD: AER: DATE: 8-17-50

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
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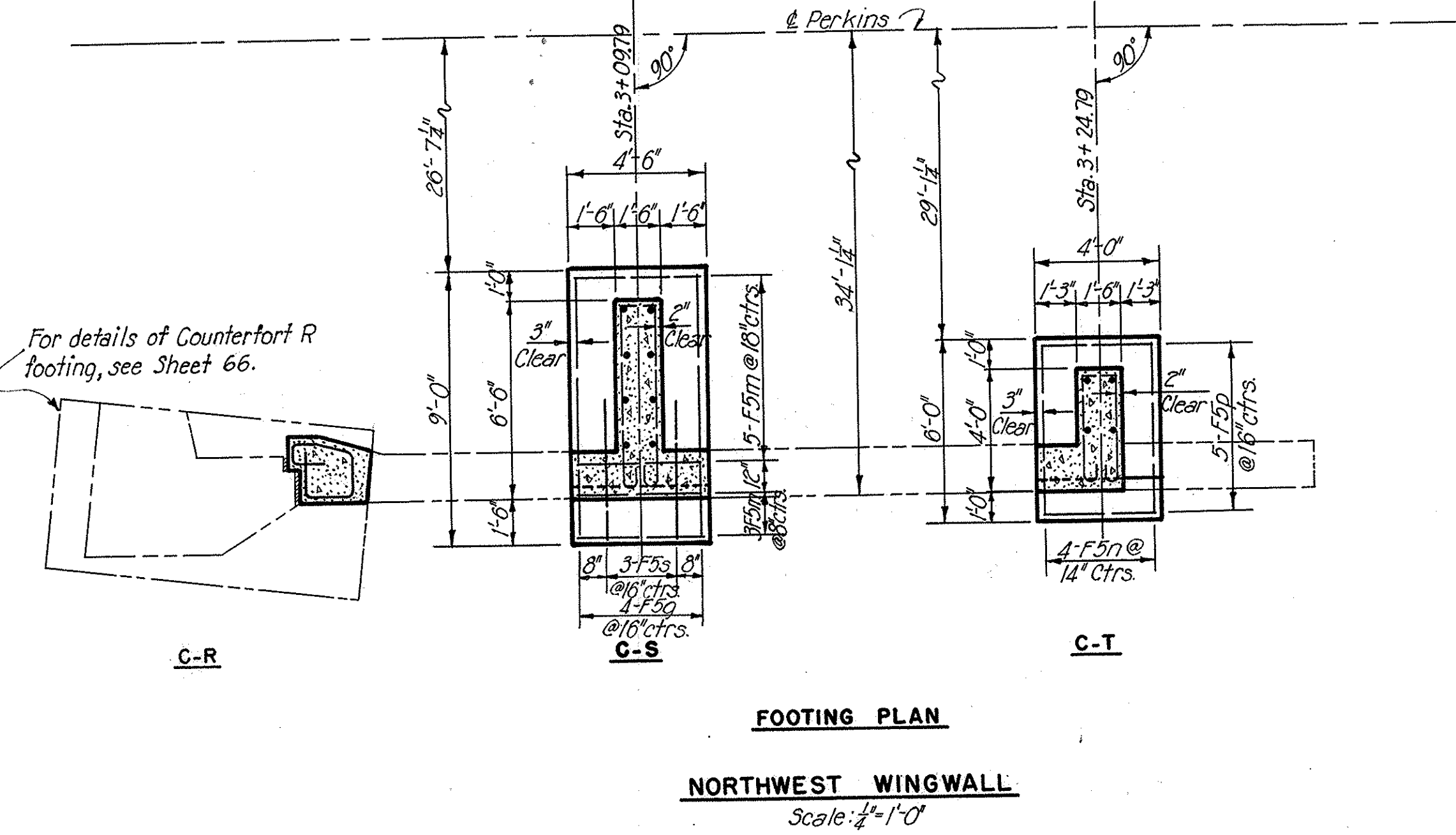
766 SHEET 67

707

SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM
EXPRESSWAY-PART 4
SUM-5-11-94



SOUTHWEST WINGWALL
Scale: 1/4" = 1'-0"



NORTHWEST WINGWALL
Scale: 1/4" = 1'-0"

Note:
For end post details, see Sheet 72.
For drainage details, see Sheet 63.

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

AKRON EXPRESSWAY SYSTEM
(EAST MARKET STREET TO EAST CUYAHOGA FALLS AVENUE)
PERKINS UNDERPASS
BR. NO. SU-5-122

WEST WINGWALLS

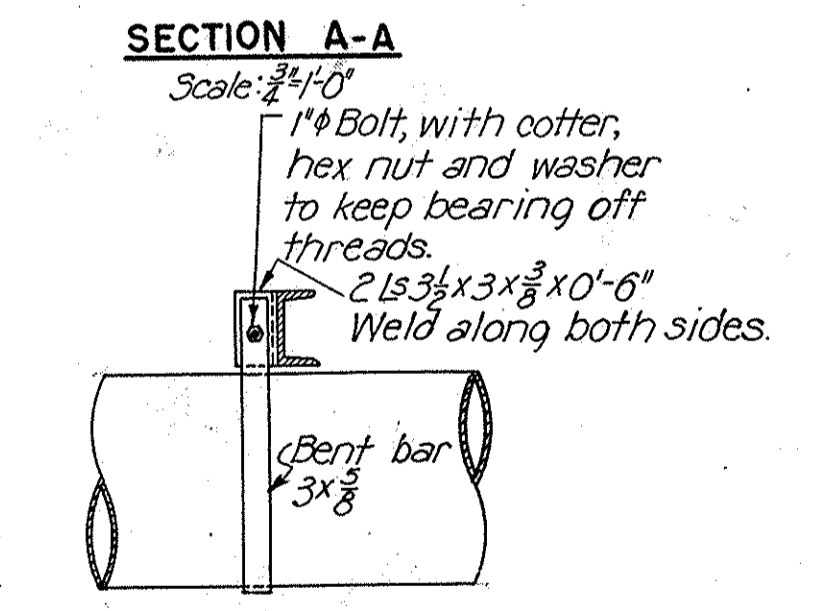
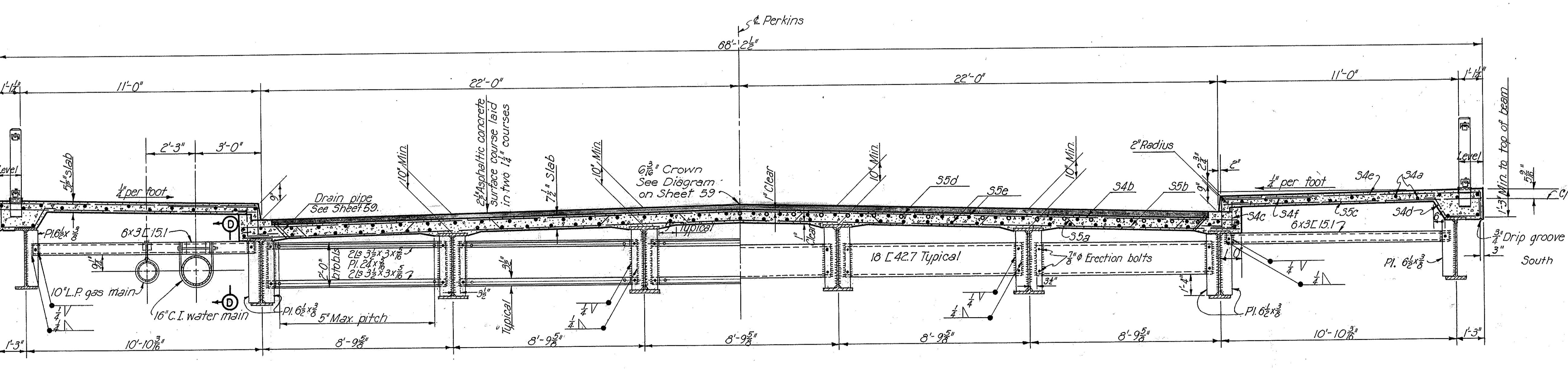
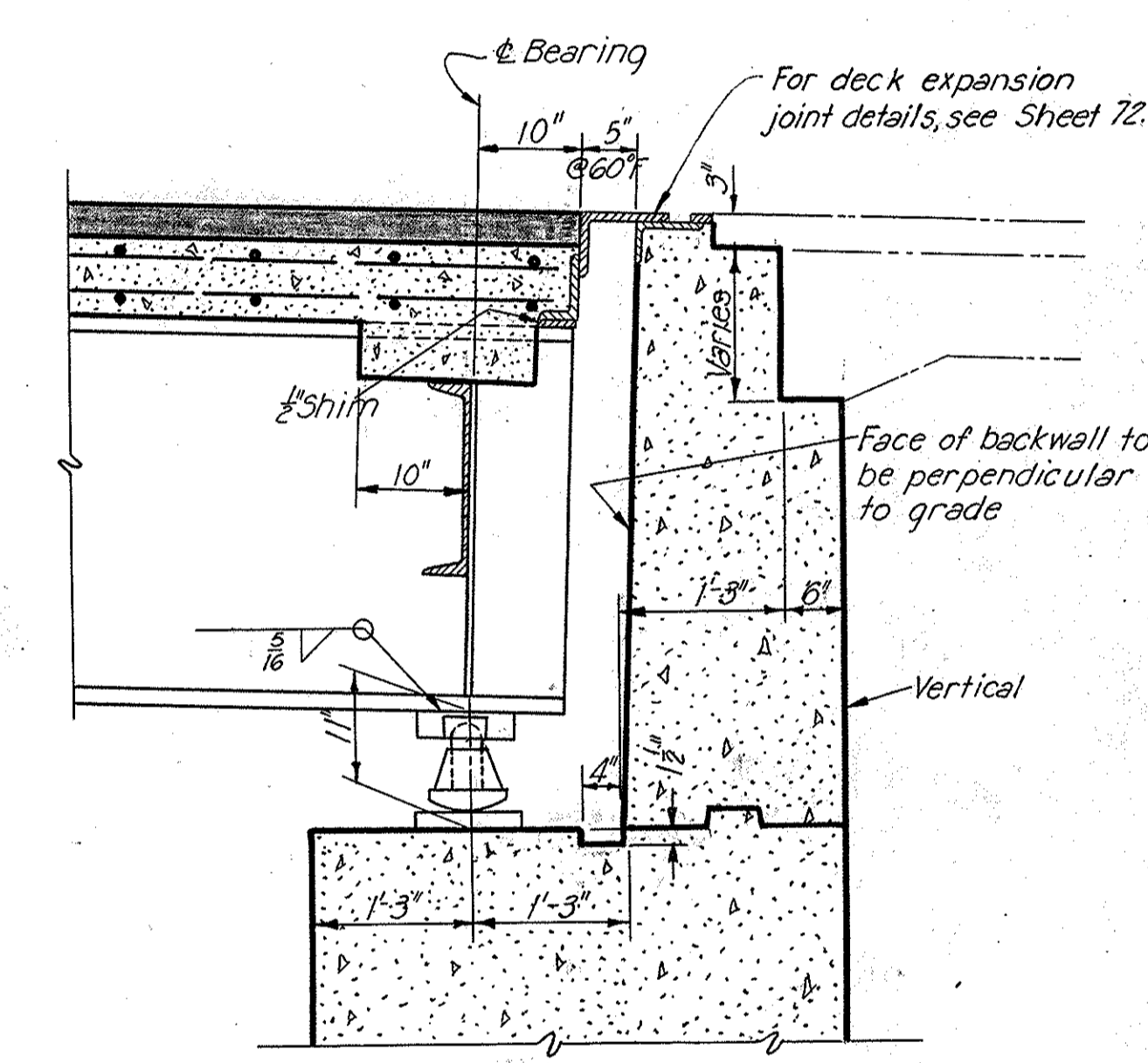
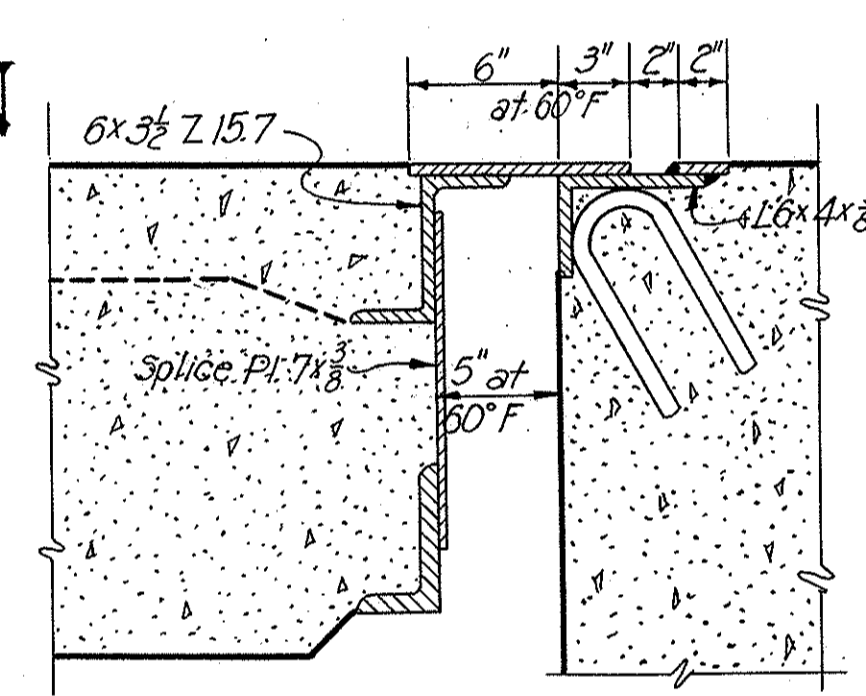
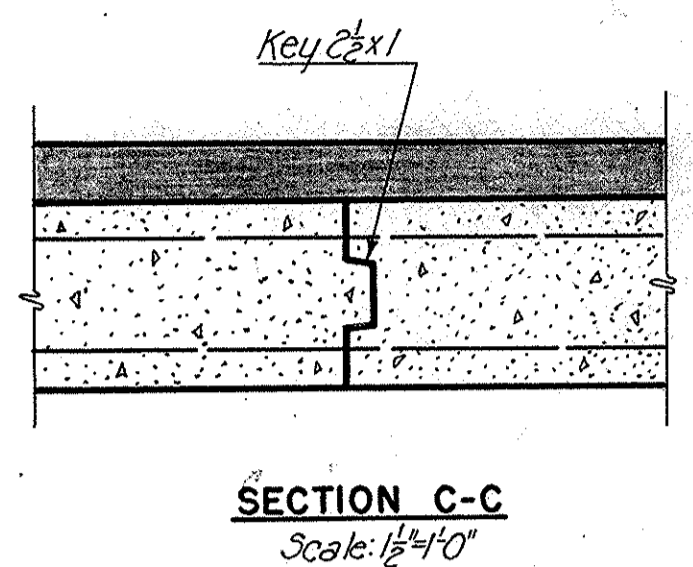
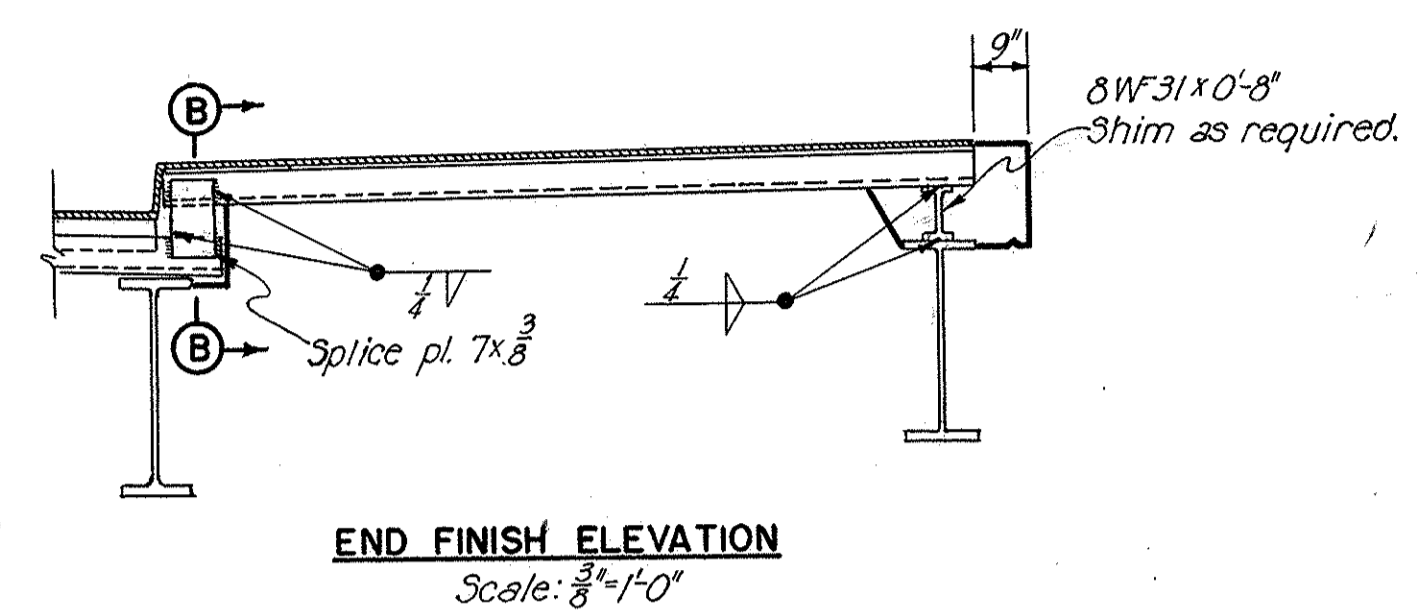
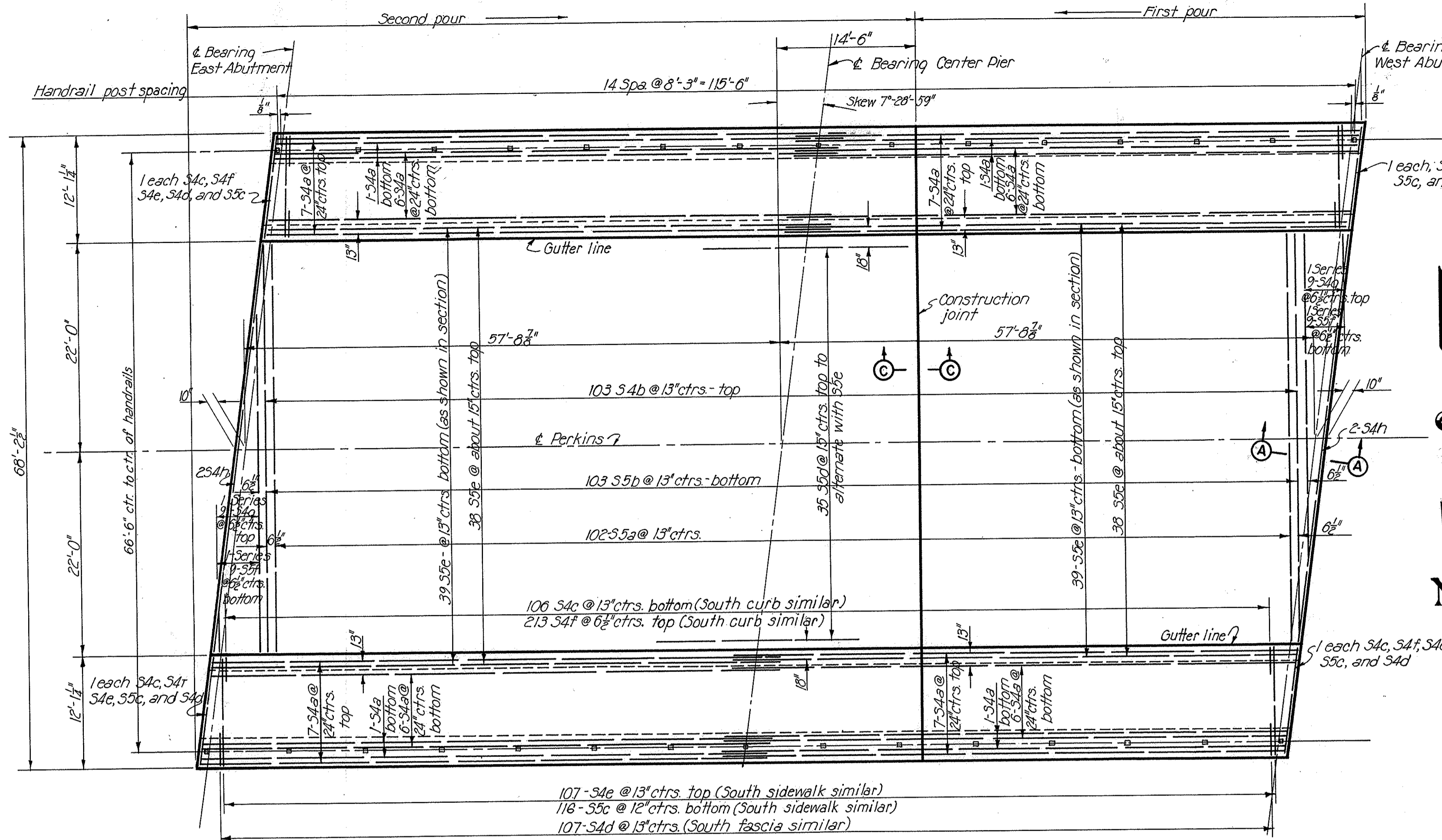
AKRON, SUMMIT COUNTY, OHIO

SCALE: 1/4" = 1'-0"
MADE H.B.A. DATE 8-11-80
TRCD H.B.A. DATE 8-25-80
CRD A.E.R. DATE 8-17-80

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766 SHEET-68

SUMMIT COUNTY OF AKRON
AKRON EXPRESSWAY SYSTEM
 EXPRESSWAY-PART 4
 SUM-5-11.94



Note: The 10" gas main and hangers will be furnished and placed by others.

Note: Bars marked with a circle are located over center pier only.

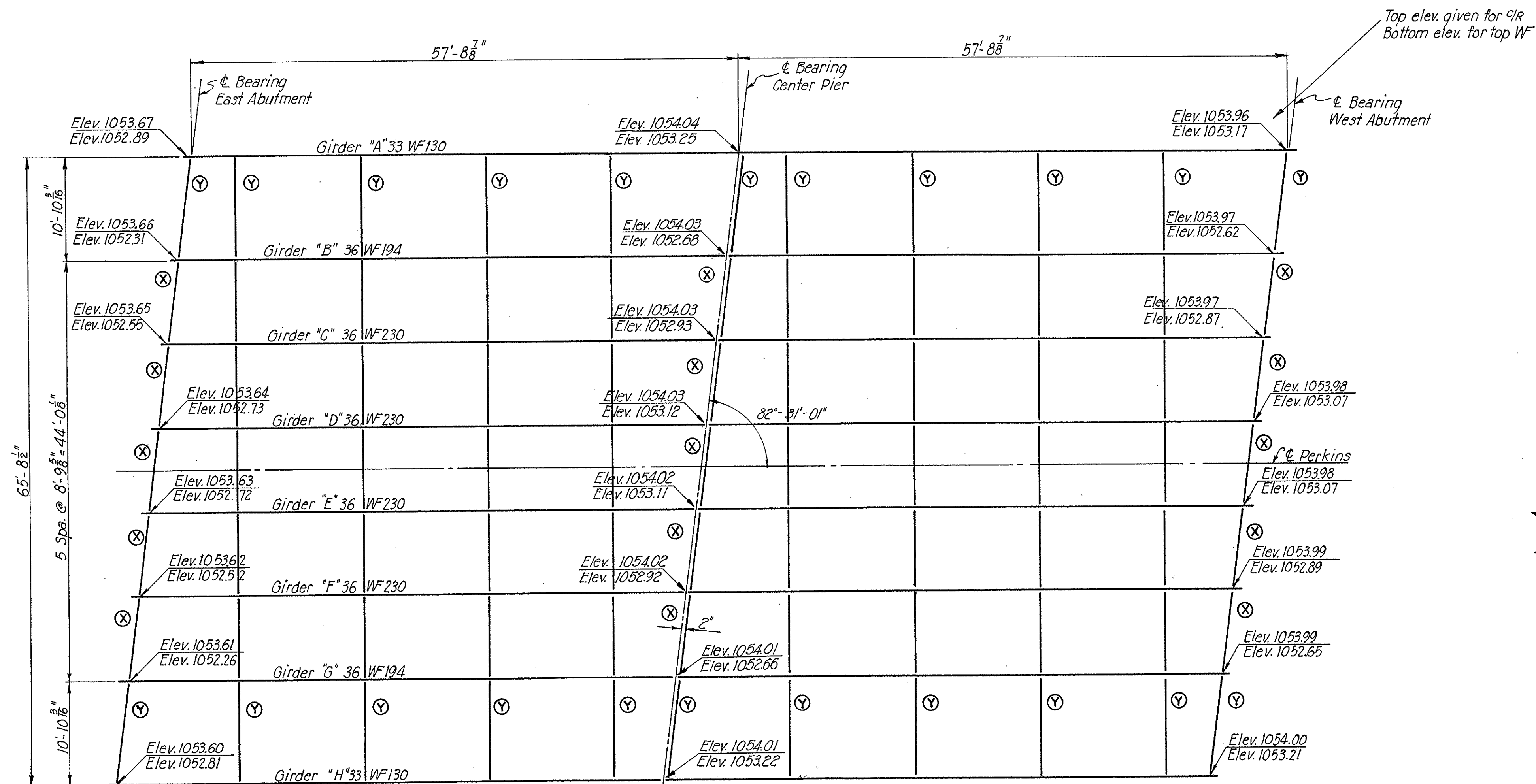
STATE OF OHIO
 DEPARTMENT OF HIGHWAYS
 BUREAU OF BRIDGES
AKRON EXPRESSWAY SYSTEM
 (EAST MARKET STREET TO EAST CUYAHOGA FALLS AVENUE)
 PERKINS UNDERPASS
 BR. NO. SU-5-122

SLAB PLAN AND CROSS SECTIONS
 AKRON, SUMMIT COUNTY, OHIO

SCALE: 3/8" = 1'-0"
 MADE I.A. DATE 8-7-50
 TRCD I.A. DATE 9-18-50
 CKD A.E.R. DATE 8-21-50

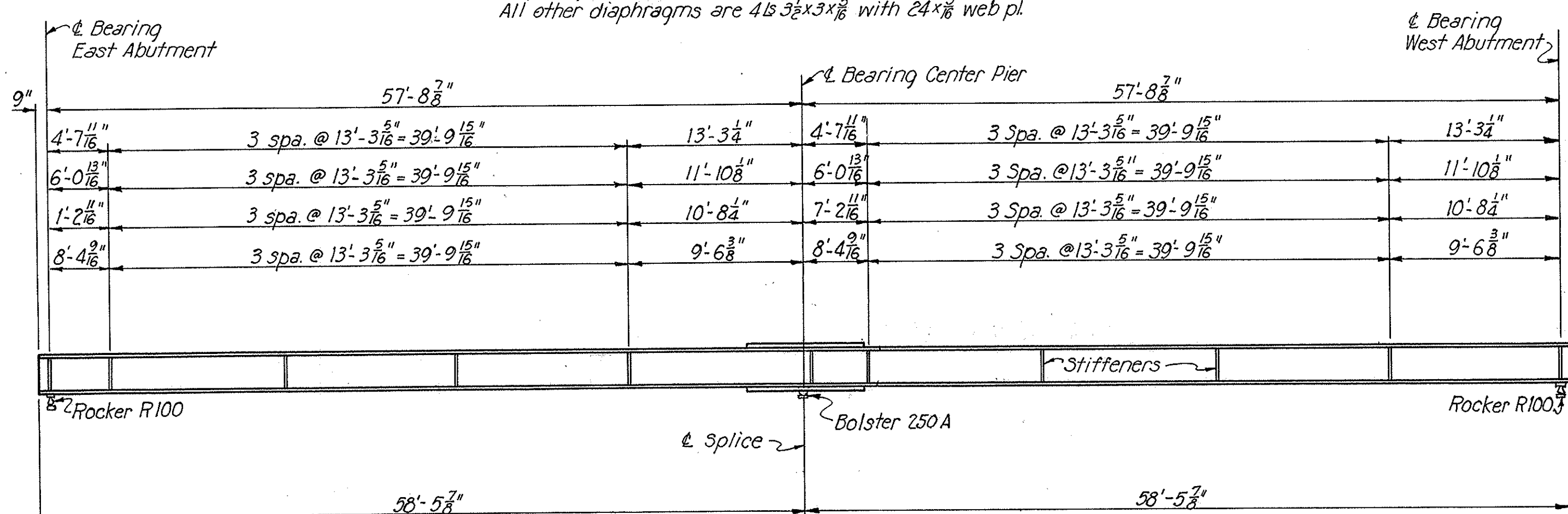
HOWARD, NEEDLES, TAMMEN & BERGENDOFF
 CONSULTING ENGINEERS
 KANSAS CITY NEW YORK

766 SHEET-69



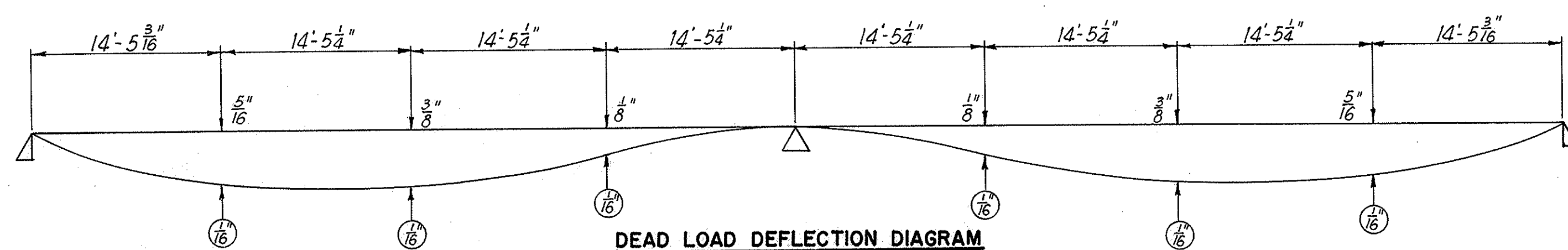
FRAMING PLAN

Scale: 3/8" = 1'-0"
Diaphragms marked ⊗ are 18L42.7.
Diaphragms marked ⊙ are 6x3L151.
All other diaphragms are 4L3 3/2 x 3 x 3/8 with 24 x 3/8 web pl.



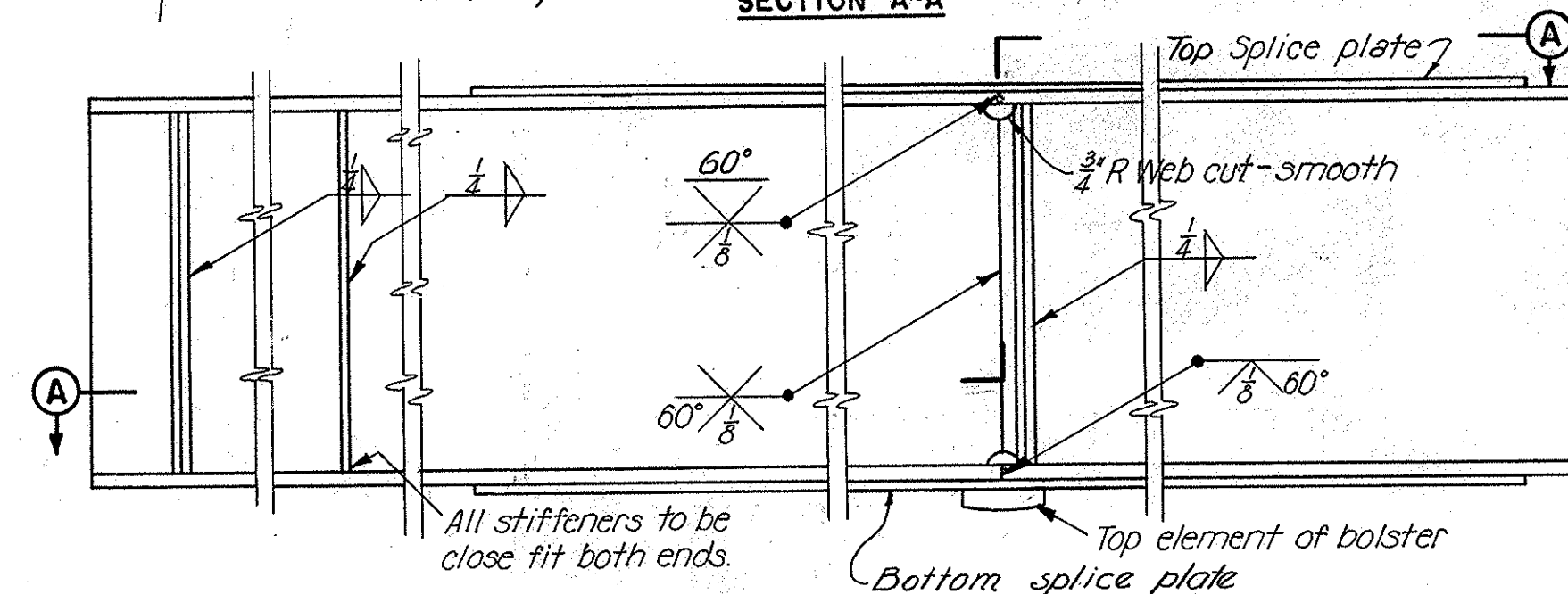
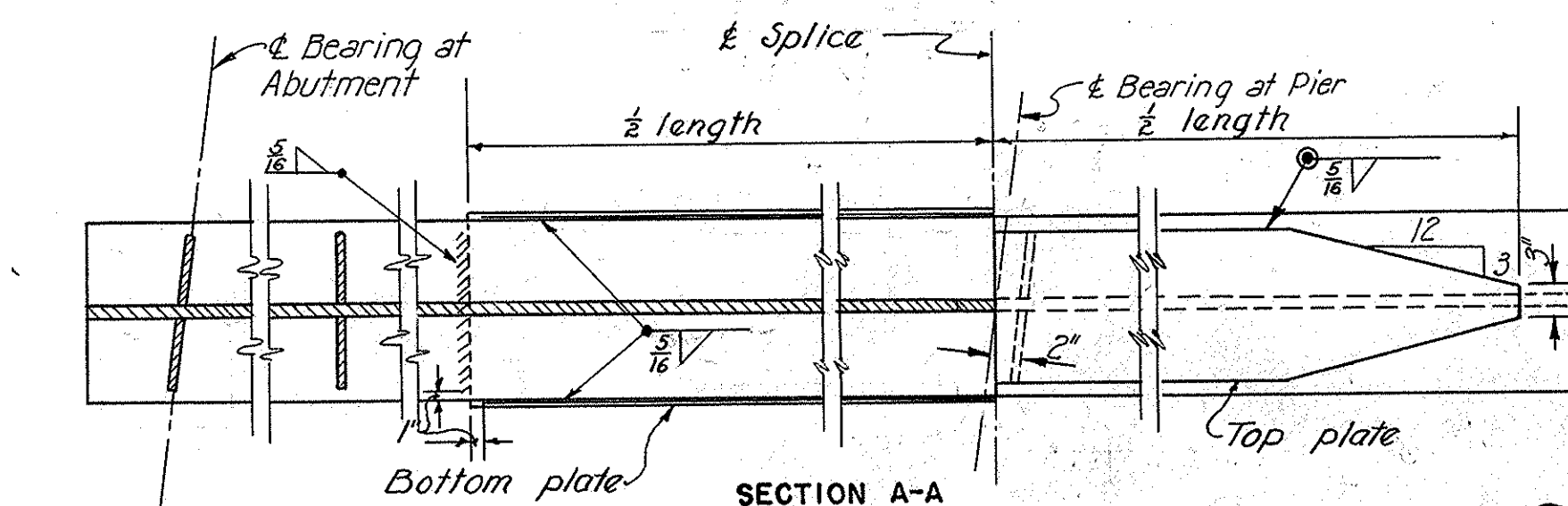
GIRDER ELEVATION

Scale: 3/8" = 1'-0"



Note:
Dimensions in ○ are deflections which may be expected in the steel beams when in place.
Dimensions above base line are additional deflections to be expected when concrete is in place.

Beam	Top Splice Plate	Bottom Splice Plate
36 WF 230	15 1/2" x 3/8" x 5'-0"	17 1/2" x 3/8" x 4'-0"
36 WF 194	11" x 1/2" x 9'-0"	13" x 1/2" x 9'-0"
33 WF 130	10 1/2" x 3/8" x 9'-0"	12 1/2" x 3/8" x 9'-0"



GIRDER DETAILS

GIRDER SPLICE WELDING PROCEDURE

1. Raise beam end at one abutment the following amount:
For 33 WF 130 1 inches
For 36 WF 194 3/8 inches
For 36 WF 230 7/8 inches
2. Butt-weld the beam flanges and web.
3. Weld the top and bottom splice plates.
4. Lower the beam end to final position.

Note: Contractor may submit alternate scheme for weld connecting lower splice plate and top element of bolster.

Note:
Welds shown flush shall be ground in the direction of stress. No stiffeners on exterior face of girders A & H.

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

AKRON EXPRESSWAY SYSTEM
(EAST MARKET STREET TO EAST CUYAHOGA FALLS AVENUE)
PERKINS UNDERPASS
BR. NO. SU-5-122

FRAMING PLAN AND GIRDER ELEVATIONS

AKRON, SUMMIT COUNTY, OHIO

SCALE: 3/8" = 1'-0"
MADE HAM DATE 8-7-50
TRCD HAM-EP DATE 8-26-50
CND AER DATE 9-21-50

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
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KANSAS CITY NEW YORK

Revised 12-22-50

SUMMIT COUNTY CITY OF AKRON EXPRESSWAY SYSTEM EXPRESSWAY-PART 4 SUM-5-11.94

Table with columns: MARK, SIZE, NO., LENGTH, TYPE, DIMENSIONS (A, B, C, D), WEIGHT POUNDS. Section: CENTER PIER. Includes items like P8a, P8b, P8c, etc.

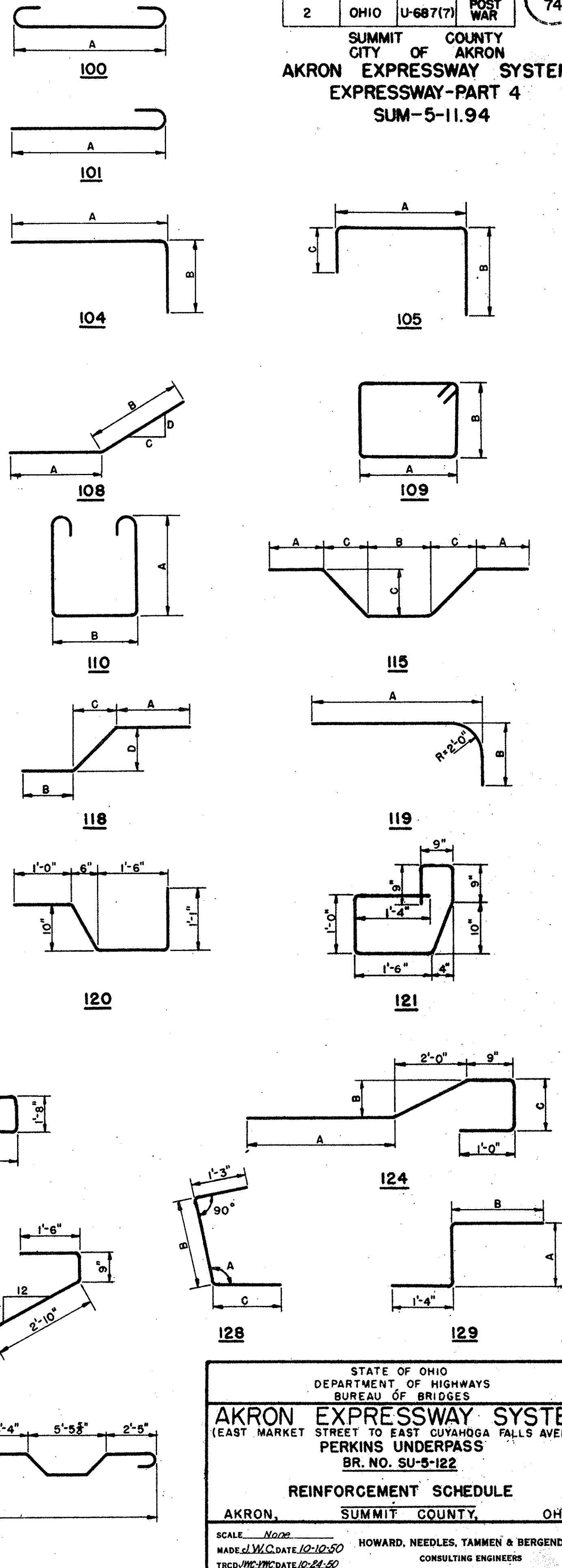
Table with columns: MARK, SIZE, NO., LENGTH, TYPE, DIMENSIONS (A, B, C, D), WEIGHT POUNDS. Section: WEST ABUTMENT. Includes items like F8a, F8b, A5a, etc.

Table with columns: MARK, SIZE, NO., LENGTH, TYPE, DIMENSIONS (A, B, C, D), WEIGHT POUNDS. Section: EAST ABUTMENT. Includes items like F8a, F8b, A5a, etc.

Table with columns: MARK, SIZE, NO., LENGTH, TYPE, DIMENSIONS (A, B, C, D), WEIGHT POUNDS. Section: SOUTHWEST WINGWALL. Includes items like W5d, F5g, etc.

Table with columns: MARK, SIZE, NO., LENGTH, TYPE, DIMENSIONS (A, B, C, D), WEIGHT POUNDS. Section: SOUTHEAST WINGWALL. Includes items like W5a, F5g, etc.

Table with columns: MARK, SIZE, NO., LENGTH, TYPE, DIMENSIONS (A, B, C, D), WEIGHT POUNDS. Section: SUPERSTRUCTURE SLAB. Includes items like S5a, S5b, etc.



STATE OF OHIO DEPARTMENT OF HIGHWAYS BUREAU OF BRIDGES AKRON EXPRESSWAY SYSTEM (EAST MARKET STREET TO EAST CUYAHOGA FALLS AVENUE) PERKINS UNDERPASS BR. NO. SU-5-122 REINFORCEMENT SCHEDULE AKRON, SUMMIT COUNTY, OHIO

BENDING DIAGRAMS