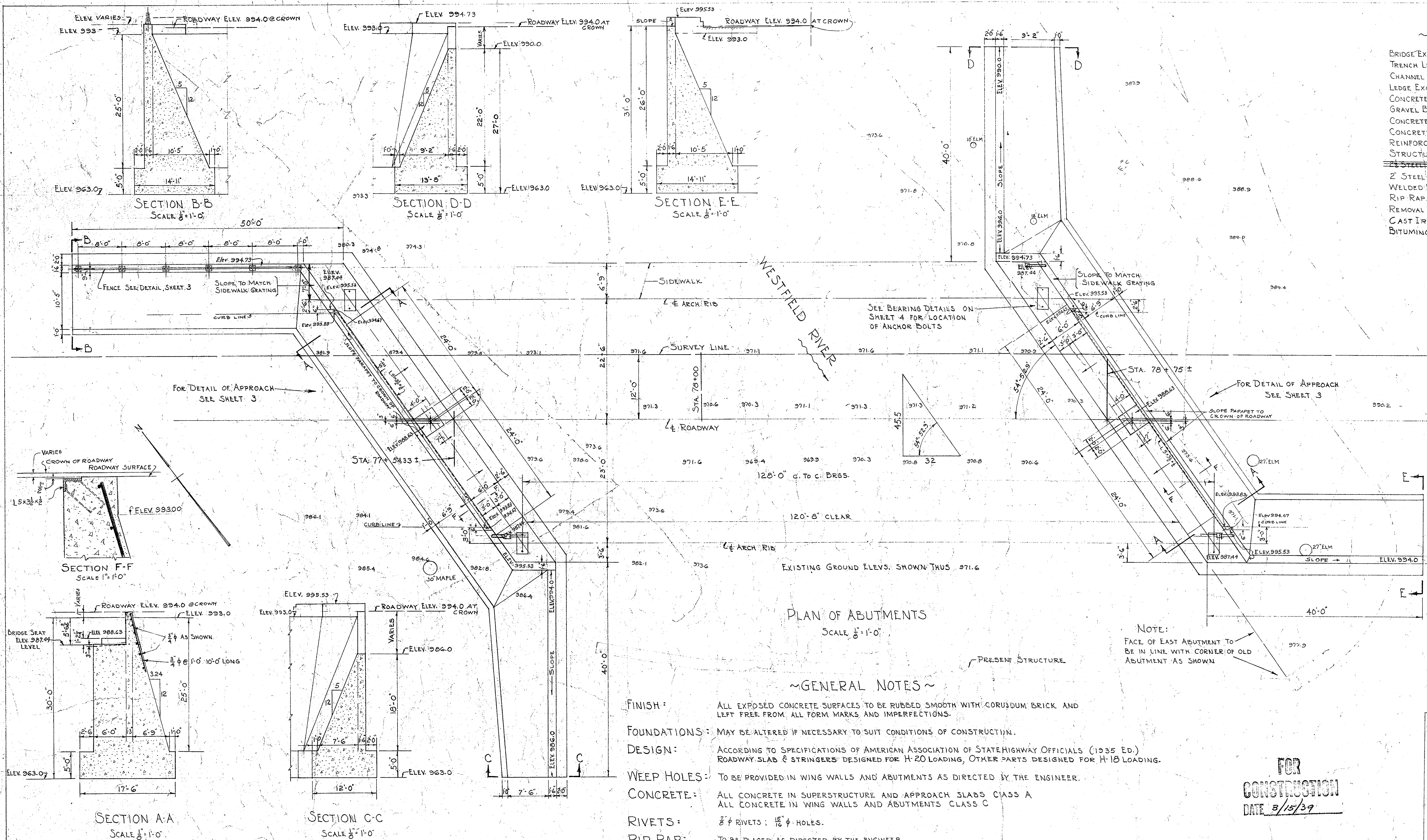




~ESTIMATED QUANTITIES~

BRIDGE EXCAVATION	5,000	C.Y.
TRENCH LEDGE EXCAVATION	100	C.Y.
CHANNEL EXCAVATION	230	C.Y.
LEDGE EXCAVATION	20	C.Y.
CONCRETE EXCAVATION	700	C.Y.
GRAVEL BORROW	2,000	C.Y.
CONCRETE CLASS A	60	C.Y.
CONCRETE CLASS C	2,800	C.Y.
REINFORCING STEEL	17,500	LBS
STRUCTURAL STEEL	600,000	LBS
2" STEEL DECK GRATING (ROADWAY)	5,440	Sq. Ft.
2" STEEL DECK GRATING (INCL. CONCRETE)	1,050	Sq. Ft.
WELDED IRON FENCE	315	LN. FT.
RIP RAP	200	C.Y.
REMOVAL OF TREES	5	
CAST IRON SCUPPERS	550	LBS.
BITUMINOUS SURFACING CLASS I	65	TONS.

- ~GENERAL NOTES~
- FINISH: ALL EXPOSED CONCRETE SURFACES TO BE RUBBED SMOOTH WITH CORUNDUM BRICK AND LEFT FREE FROM ALL FORM MARKS AND IMPERFECTIONS.
- FOUNDATIONS: MAY BE ALTERED IF NECESSARY TO SUIT CONDITIONS OF CONSTRUCTION.
- DESIGN: ACCORDING TO SPECIFICATIONS OF AMERICAN ASSOCIATION OF STATE HIGHWAY OFFICIALS (1935 ED.) ROADWAY SLAB & STRINGERS DESIGNED FOR H-20 LOADING, OTHER PARTS DESIGNED FOR H-18 LOADING.
- WEEP HOLES: TO BE PROVIDED IN WING WALLS AND ABUTMENTS AS DIRECTED BY THE ENGINEER.
- CONCRETE: ALL CONCRETE IN SUPERSTRUCTURE AND APPROACH SLABS CLASS A
ALL CONCRETE IN WING WALLS AND ABUTMENTS CLASS C
- RIVETS: 3/8" RIVETS; 1/2" HOLES.
- RIP RAP: TO BE PLACED AS DIRECTED BY THE ENGINEER.

FOR
CONSTRUCTION
DATE 3/15/39

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ENGINEERS
BOSTON, MASS.

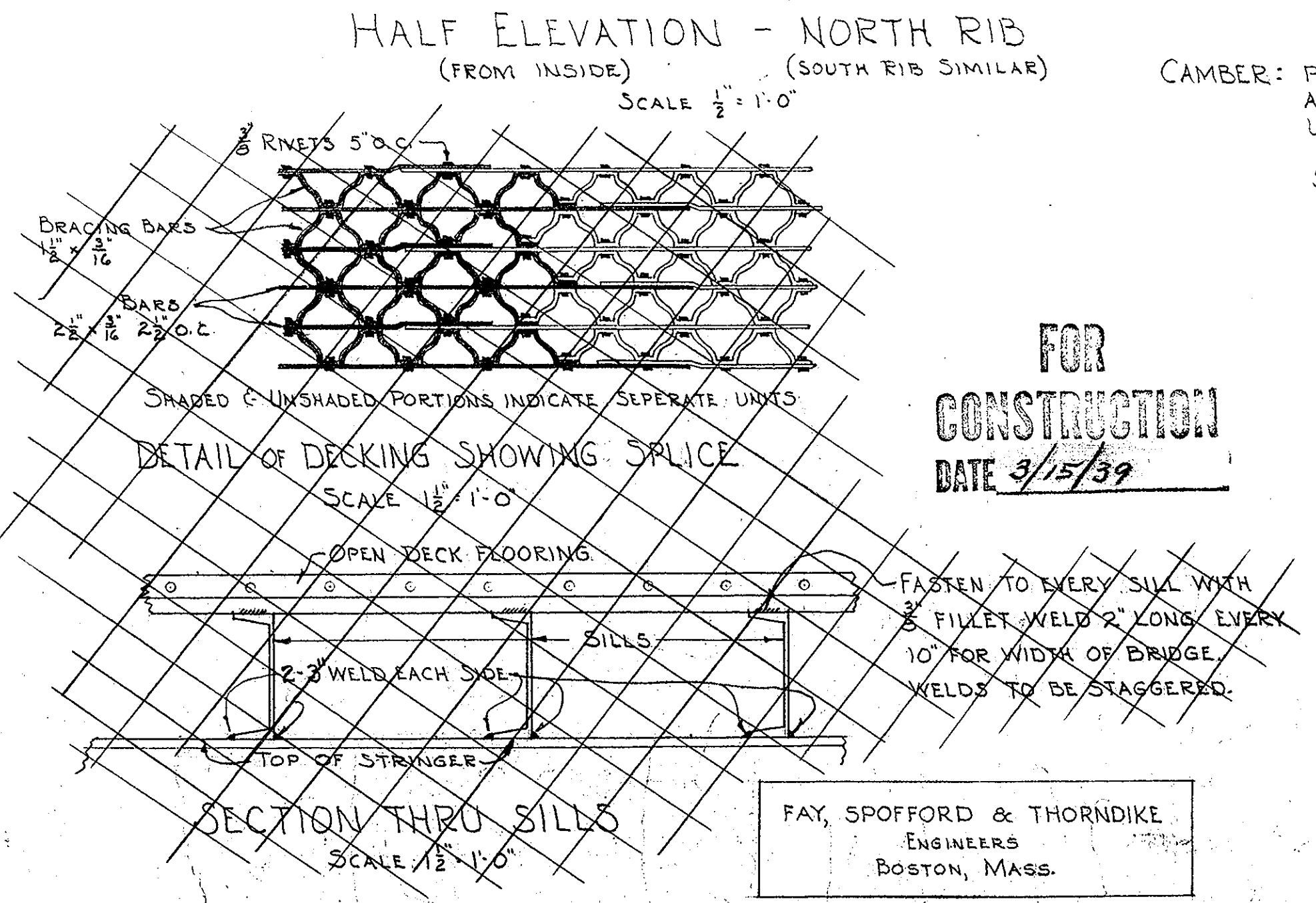
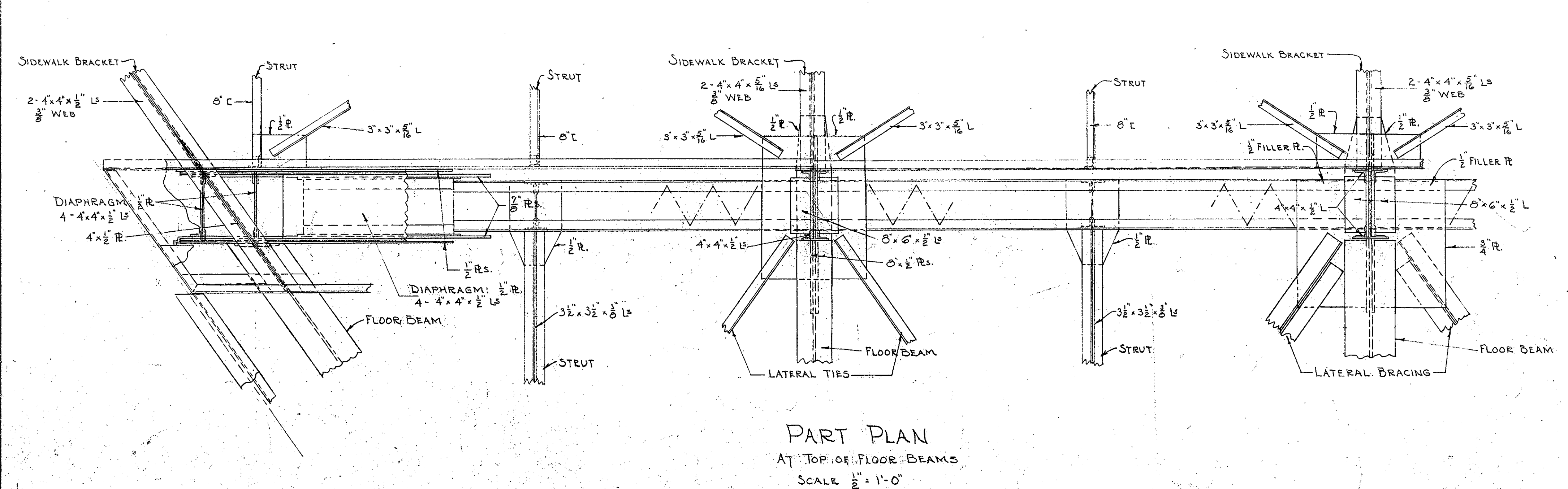
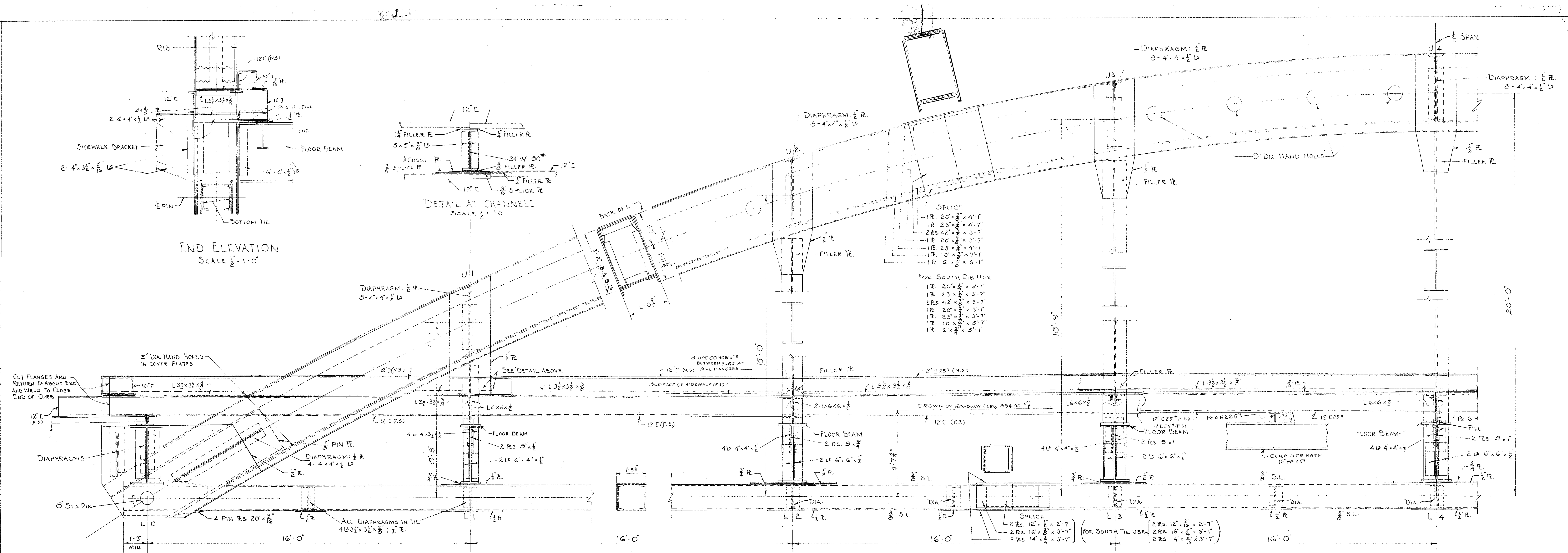
REV. NO.	DATE	DESCRIPTION	MADE BY	CHK. BY	APPD. BY
1	3-9-39	Br Seat lowered; Appr. Slab removed	ES+T		

SUPERSEDES 1/10/39

THE COMMONWEALTH OF MASSACHUSETTS
PROPOSED BRIDGE
CUMMINGTON
CUMMINGTON BRIDGE
OVER WESTFIELD RIVER

SCALES AS NOTED
OFFICE OF
DEPARTMENT OF PUBLIC WORKS
100 NASHUA ST., BOSTON, MASS.
DECEMBER 1938

BRIDGE ENGINEER	CHIEF ENGINEER
DESIGNED BY	TRACED BY
CHECKED BY	



CAMBER: PROVIDE CAMBER EQUAL TO THE DEFLECTION OF ARCH RIBS AND HANGERS PRODUCED BY THE DEAD LOAD PLUS THE UNIFORM LIVE LOAD.

SEE SINGLE LINE DIAGRAMS ON SHEET 4 FOR SIZE OF MEMBERS NOT SHOWN HERE.

1	3-9-39	Tie & Pin Ribs made heavier	FS+T		
REV.	DATE	DESCRIPTION	MADE BY	CHK BY	APPD BY

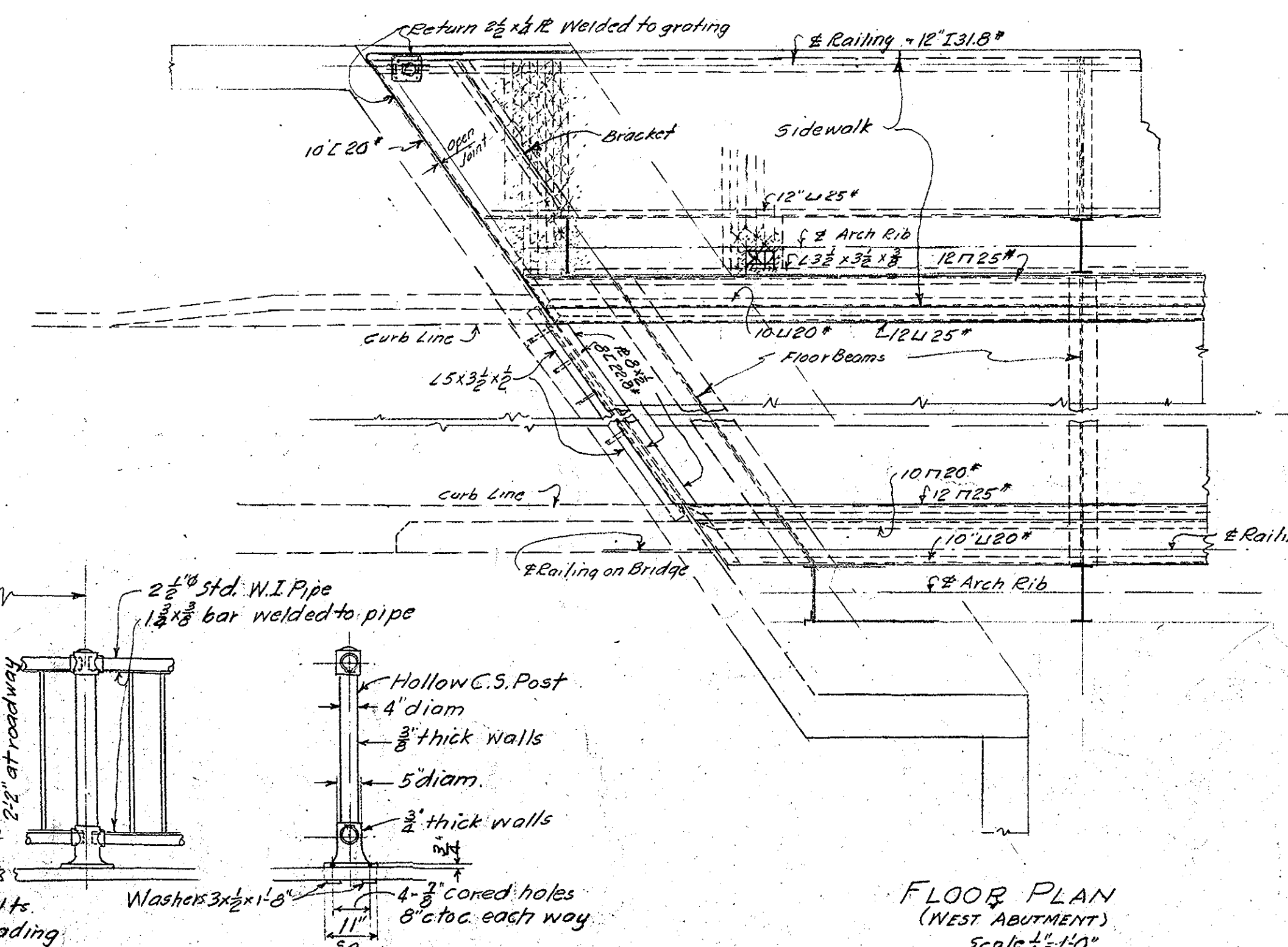
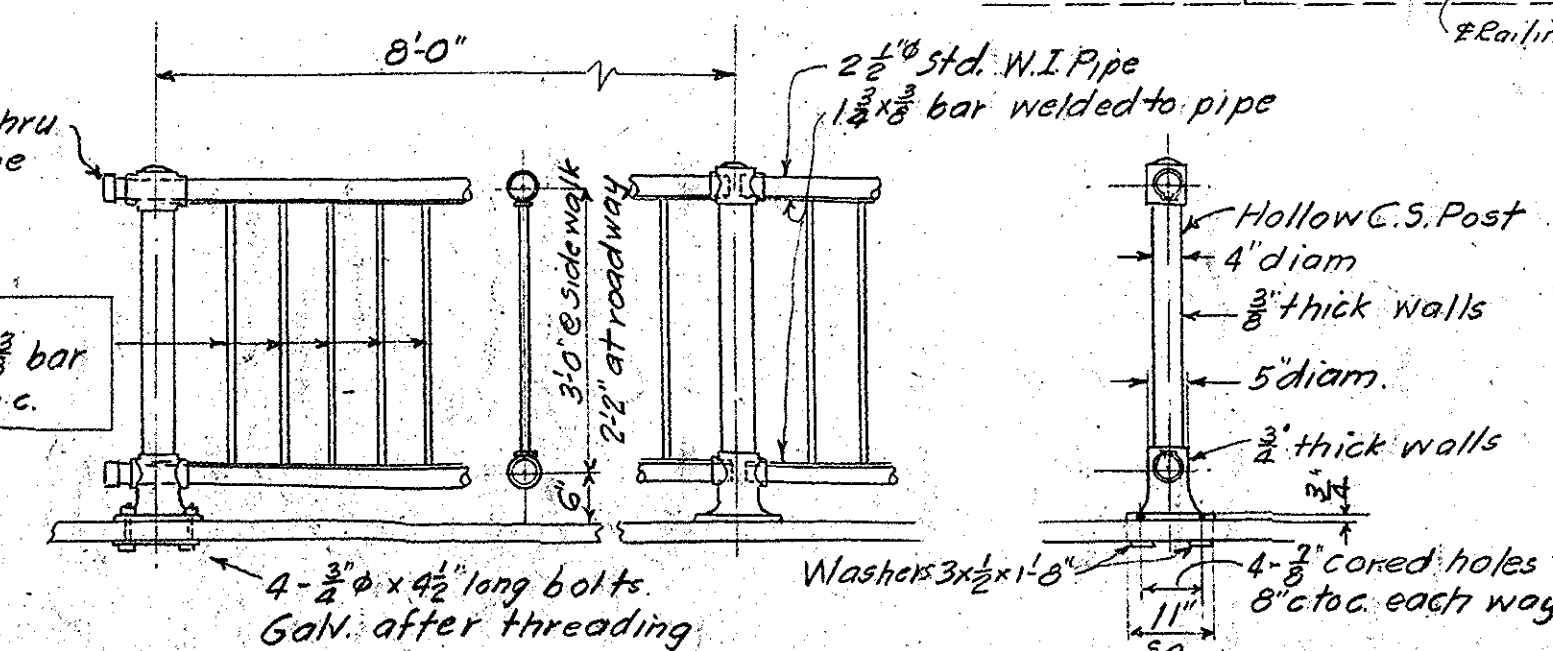
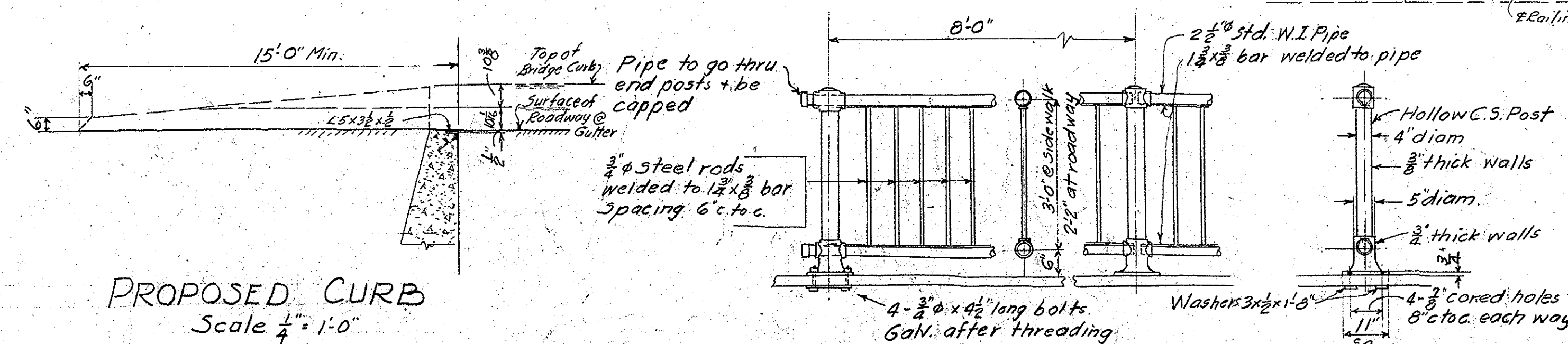
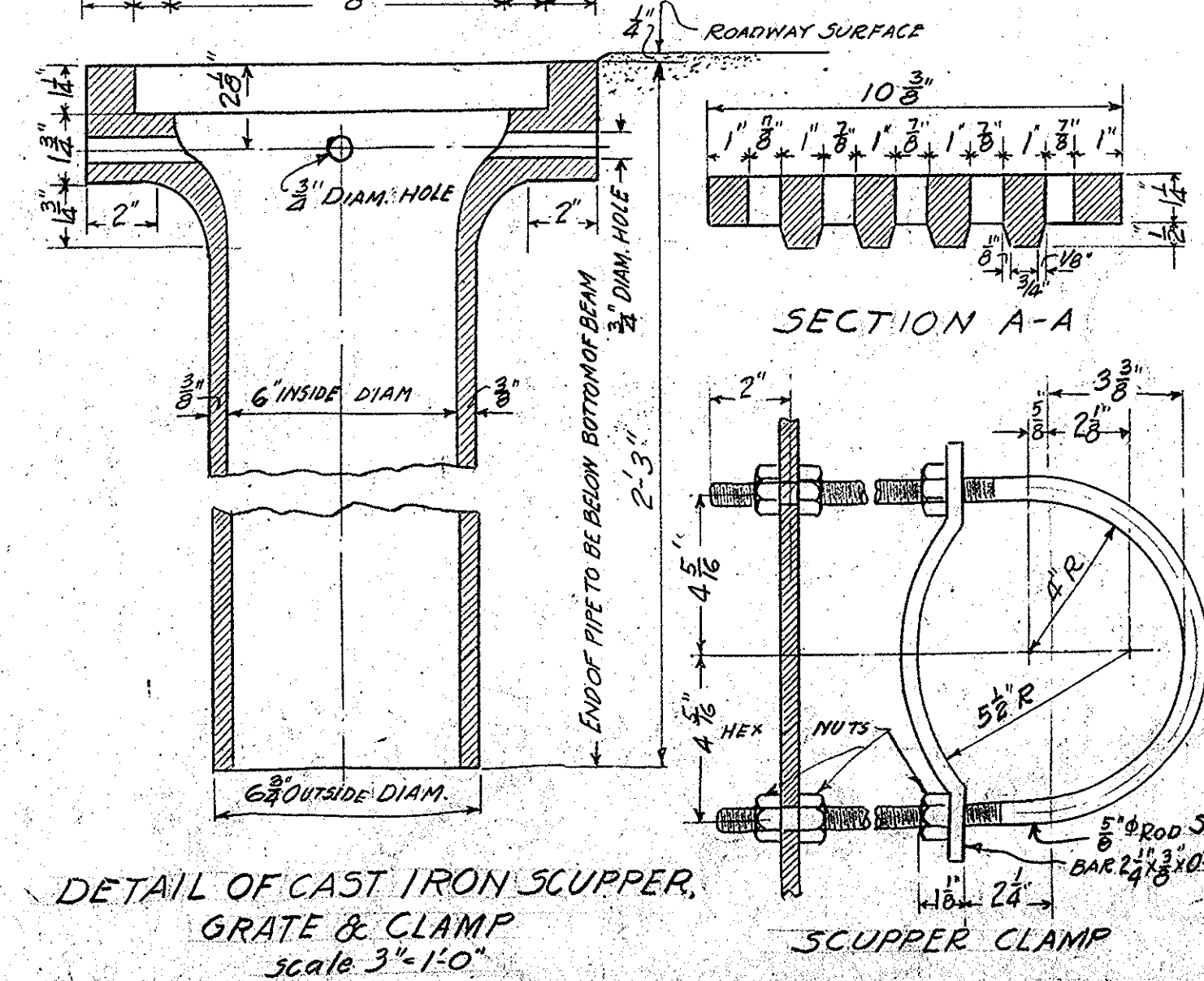
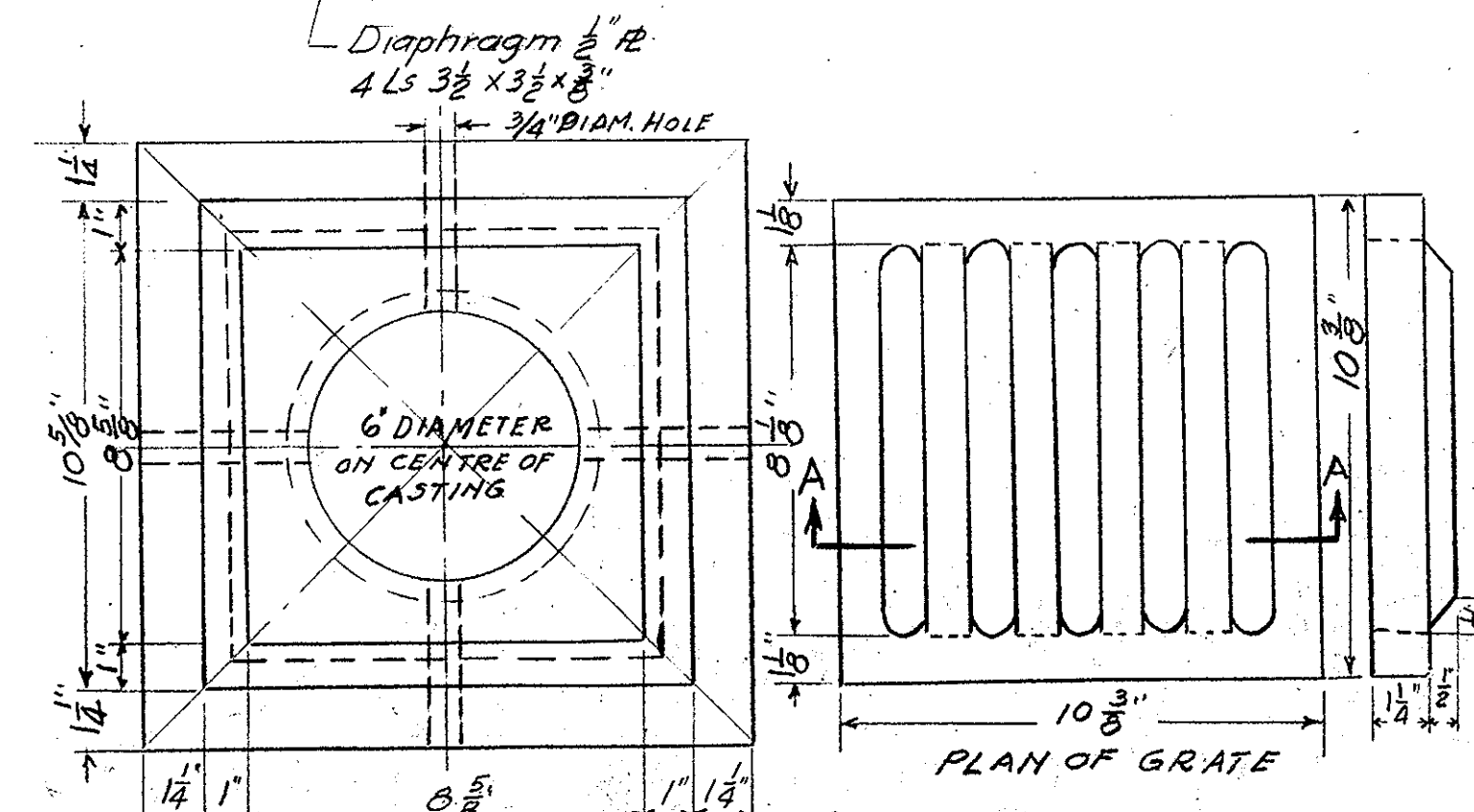
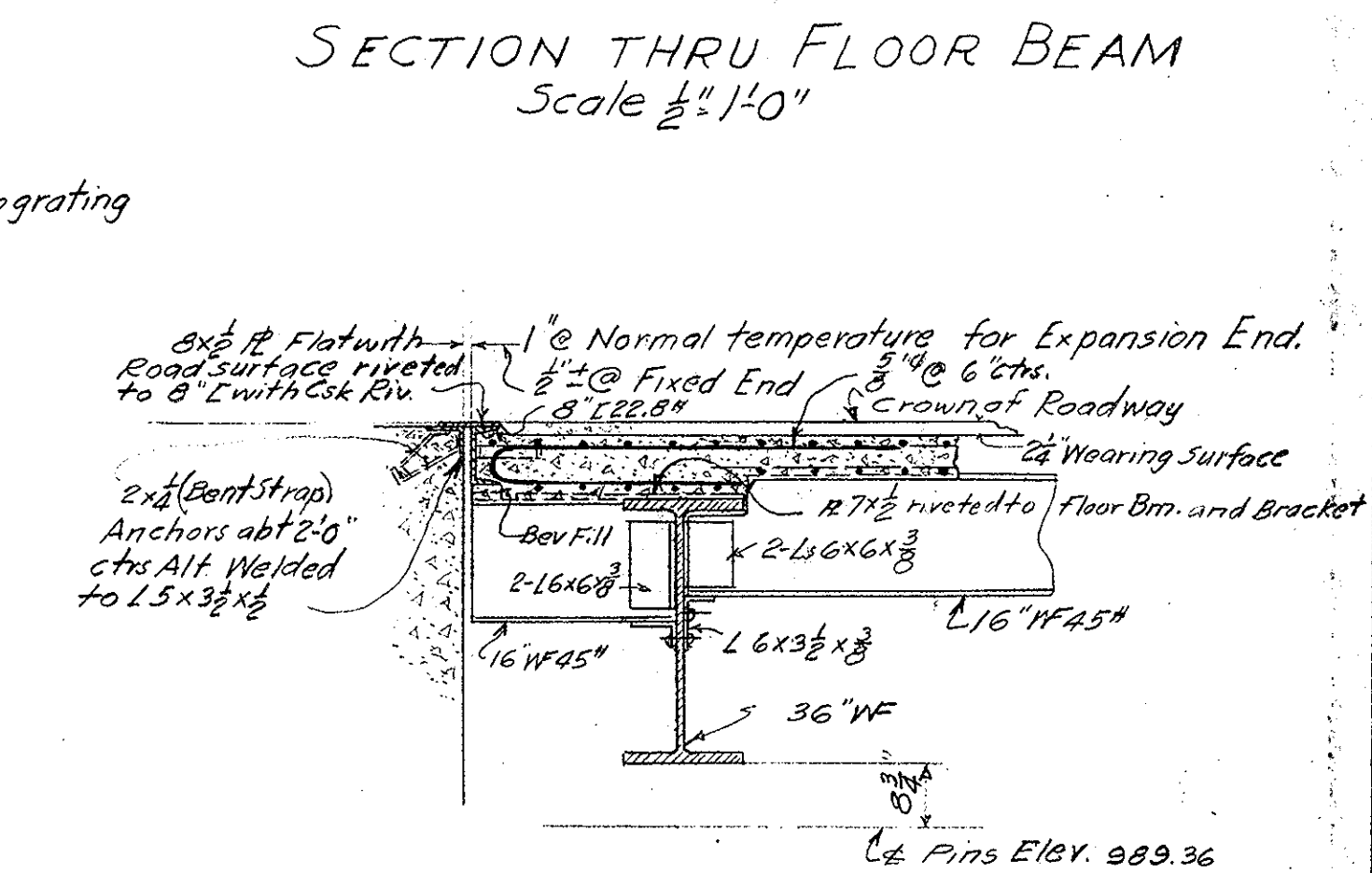
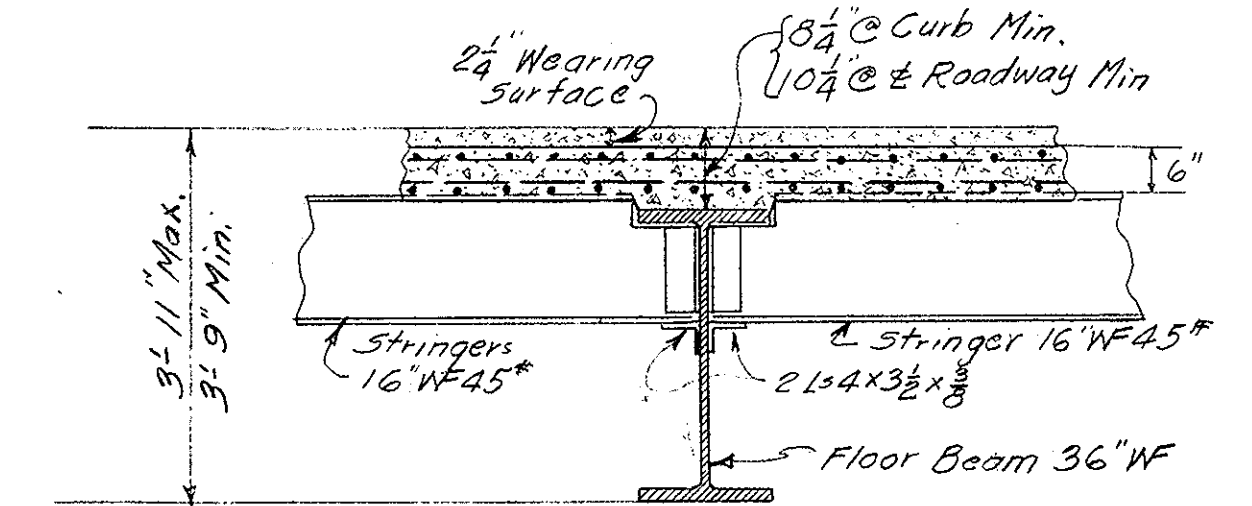
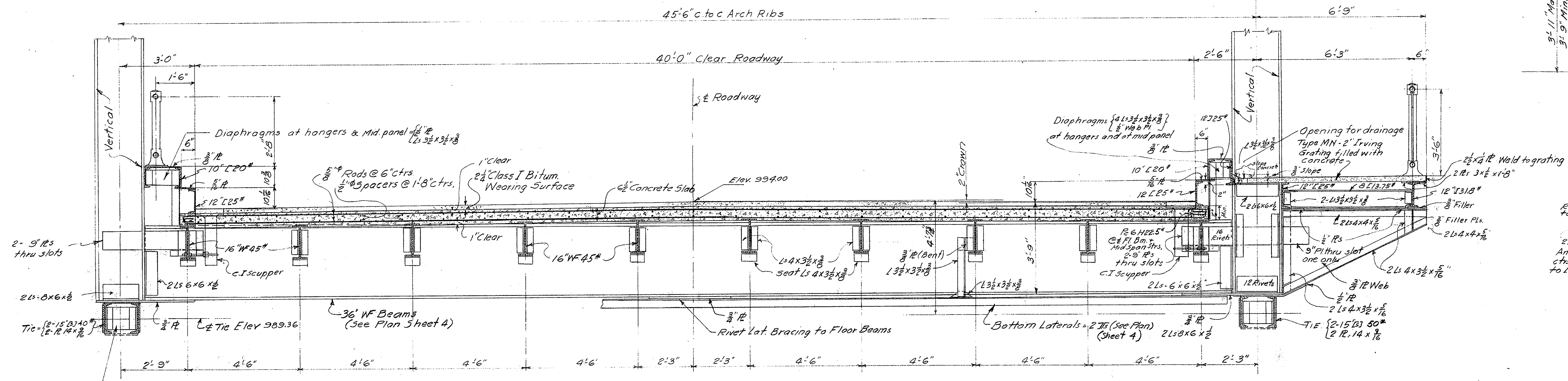
THE COMMONWEALTH OF MASSACHUSETTS
PROPOSED BRIDGE
CUMMINGTON
CUMMINGTON BRIDGE
OVER WESTFIELD RIVER

SCALES AS NOTED
OFFICE OF
DEPARTMENT OF PUBLIC WORKS
100 NASHUA ST. BOSTON, MASS.
DECEMBER, 1938

BRIDGE ENGINEER
DESIGNED BY

CHIEF ENGINEER
TRACED BY

CHECKED BY



SUPERSEDES $\frac{Ym-5}{126}$

THE COMMONWEALTH OF MASSACHUSETTS
PROPOSED BRIDGE
CUMMINGTON
CUMMINGTON BRIDGE
OVER WESTFIELD RIVER.

SCALES AS NOTED
 OFFICE OF
 DEPARTMENT OF PUBLIC WORKS
 100 NASHUA ST., BOSTON, MASS.
 MARCH 1939

BRIDGE ENGINEER		CHIEF ENGINEER
DESIGNED BY	TRACED BY	CHECKED BY

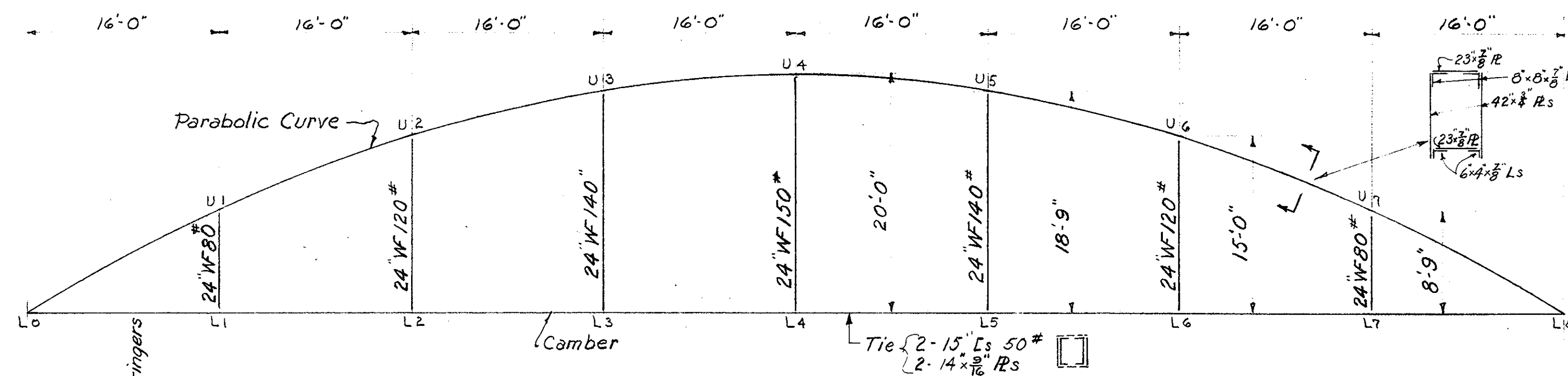
CHIEF ENGINEER
CHECKED BY

SHEET No. 3 OF 67

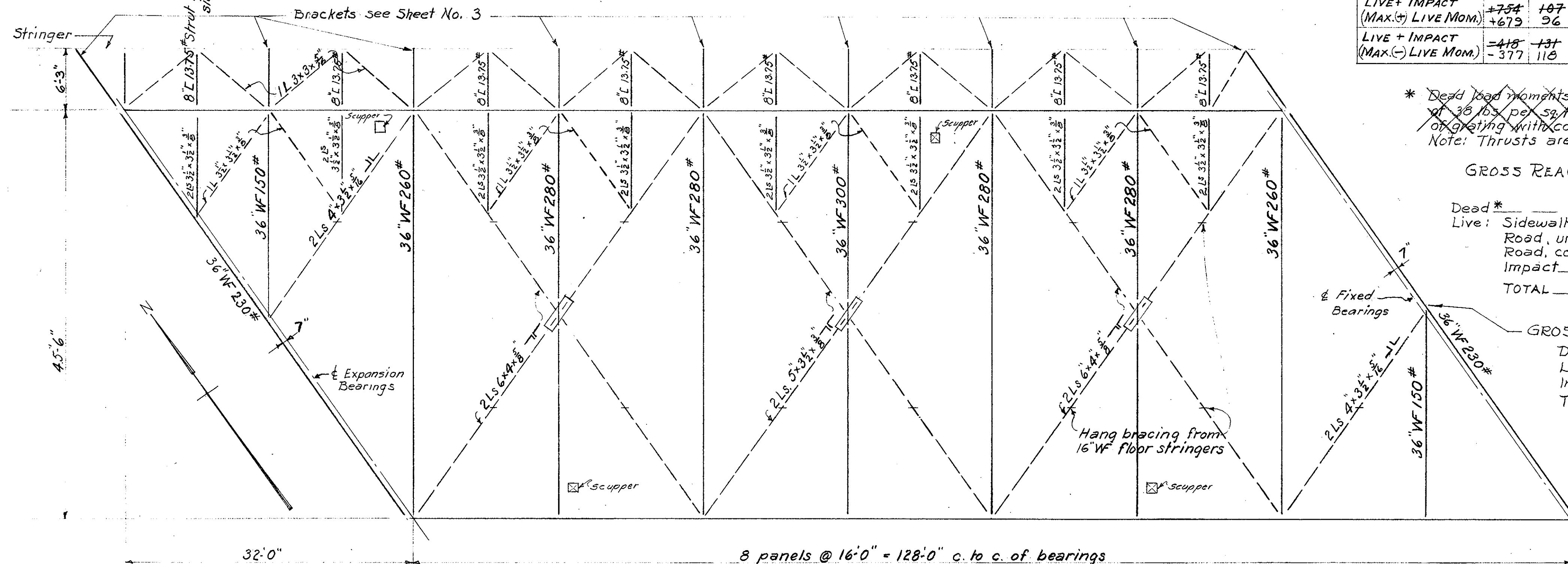
BRIDGE No. C-21-2

**FOR
CONSTRUCTION
DATE 3/15/39**

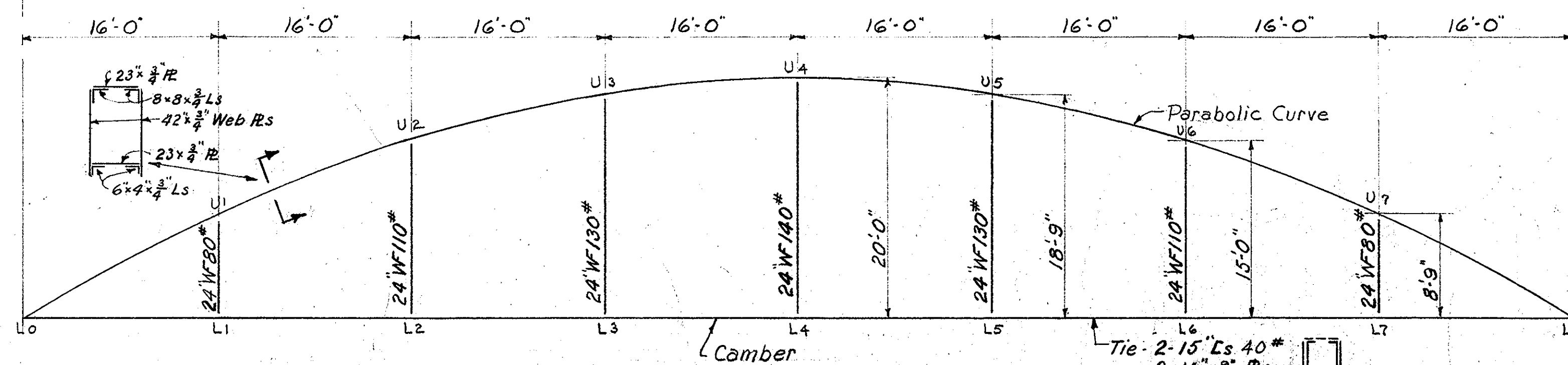
FAY, SPOFFORD & THORNDIKE
ENGINEERS
BOSTON, MASS.



ELEVATION OF NORTH RIB
Scale $\frac{1}{8}''=1'-0''$



PLAN
Scale $\frac{1}{8}''=1'-0''$



ELEVATION OF SOUTH RIB
Scale $\frac{1}{8}''=1'-0''$

SUMMARY OF MOMENTS & THRUSTS									
NORTH RIB									
	PANEL PT. 1		PANEL PT. 2		PANEL PT. 3		PANEL PT. 4		
	M.	T.	M.	T.	M.	T.	M.	T.	
DEAD *	+214	428	+356	407	+437	387	+424	377	
	+261	522	+433	496	+525	471	+516	458	
LIVE + IMPACT	+832	124	+1008	120	+1240	158	+1459	148	
(MAX.+) LIVE MOM.	+1761	114	+1920	110	+2140	140	+2402	136	
LIVE + IMPACT	-480	-151	-607	-145	-744	-100	-884	-93	
(MAX.-) LIVE MOM.	-441	-139	-558	-133	-683	-100	-819	-86	

SOUTH RIB									
	PANEL PT. 1		PANEL PT. 2		PANEL PT. 3		PANEL PT. 4		
	M.	T.	M.	T.	M.	T.	M.	T.	
DEAD *	+176	352	+293	335	+355	318	+349	311	
	+223	445	+371	424	+449	403	+442	393	
LIVE + IMPACT	+754	107	+924	105	+1126	123	+1398	130	
(MAX.+) LIVE MOM.	+679	96	+814	95	+953	120	+1130	117	
LIVE + IMPACT	-418	-131	-529	-124	-653	-95	-799	-79	
(MAX.-) LIVE MOM.	-377	-118	-477	-112	-584	-86	-710	-71	

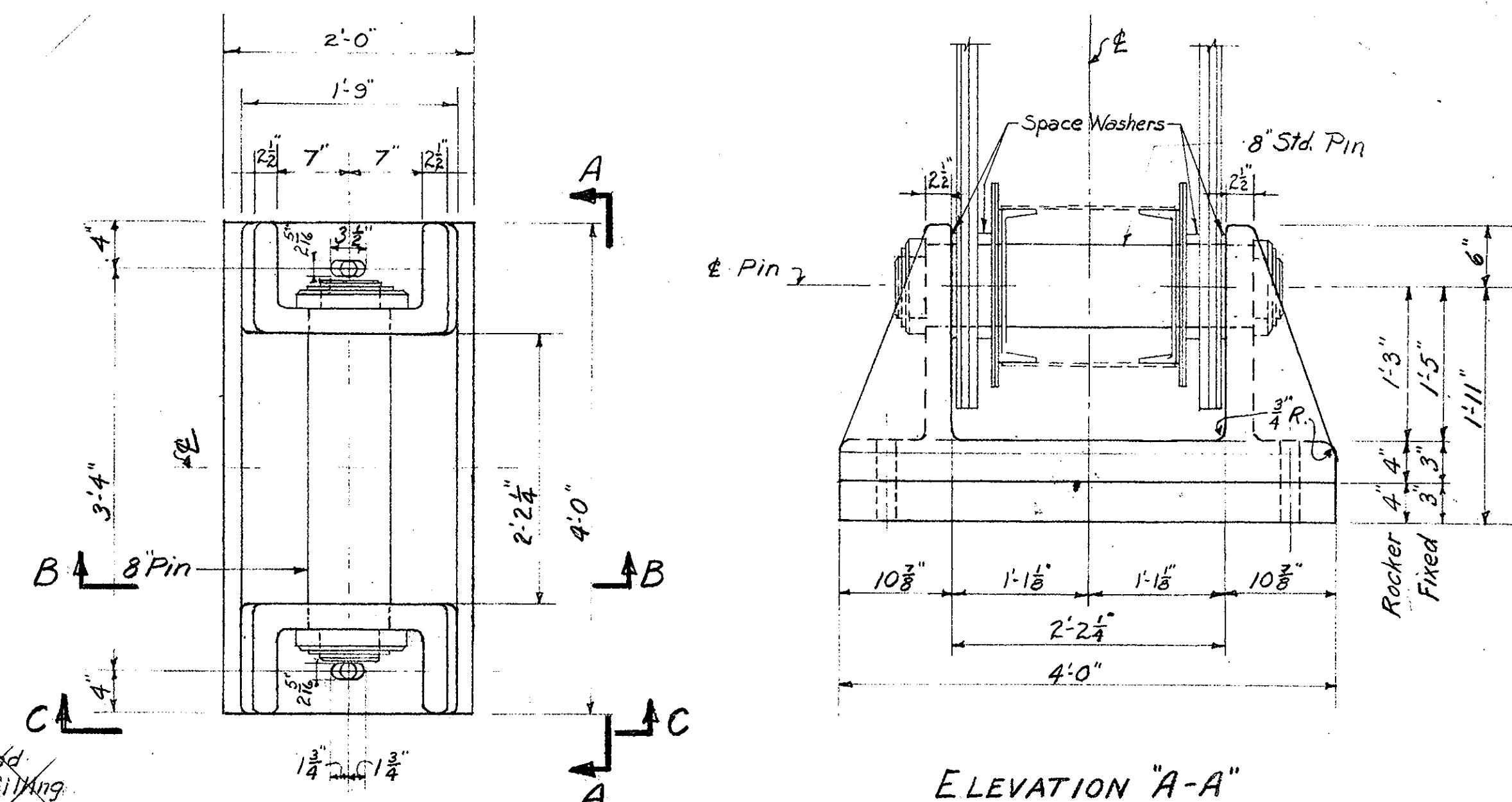
* Dead load moments, thrusts & reactions include an additional load of 38 lbs. per sq. ft. over the roadway to allow for future filling of graving with concrete.
Note: Thrusts are in kips, Moments in kip ft.

GROSS REACTIONS (Main Bearings)

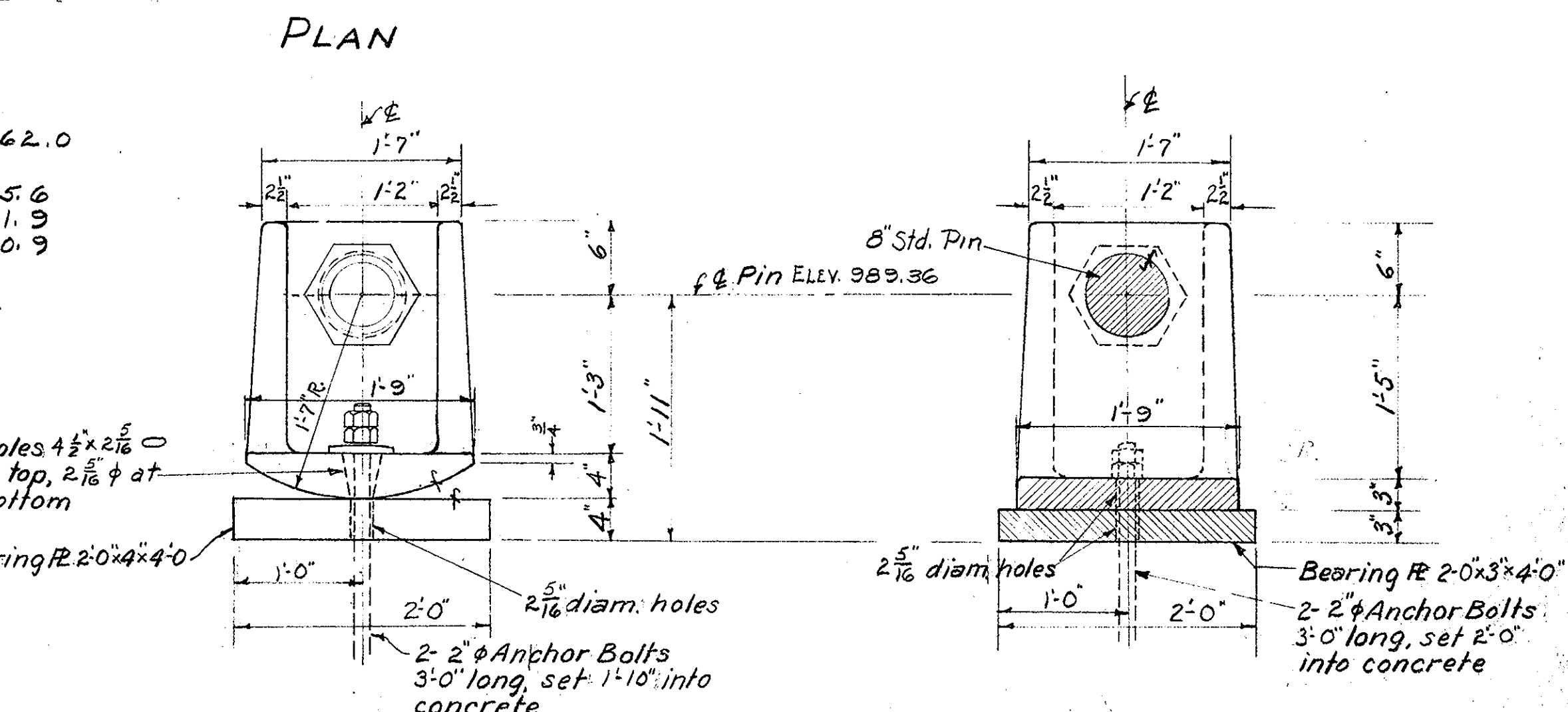
	North Rib		South Rib	
Dead *	251.0	306.0	207.0	262.0
Live: Sidewalk	21.2			
Road, uniform	72.0	65.6	72.0	65.6
Road, concentrated	46.5	41.9	46.5	41.9
Impact	23.2	20.9	23.2	20.9
TOTAL	414.7	454.6K	349.5	390.4K

GROSS REACTIONS (End Fl. Beam Bearings)

Dead *	41.0	63.5
Live	80.0	72.0
Impact	28.0	25.0
TOTAL	149.0	160.5K



ELEVATION "A-A"



ELEVATION "C-C"
ROCKER

SECTION "B-B"
FIXED

DETAIL OF BEARINGS Scale $1\frac{1}{2}''=1'-0''$

NOTE: ALL BEARING RS. TO BE SET ON THREE LAYERS OF CANVAS AND RED LEAD.

REV. NO.	DATE	DESCRIPTION	MADE BY	CHK BY	APPD BY
1	3-9-39	Tie is made heavier; Moments Rev	FS+T		

THE COMMONWEALTH OF MASSACHUSETTS
PROPOSED BRIDGE
CUMMINGTON
CUMMINGTON BRIDGE
OVER WESTFIELD RIVER

SCALES AS NOTED
OFFICE OF
DEPARTMENT OF PUBLIC WORKS
100 NASHUA ST., BOSTON, MASS.
DECEMBER 1938

DESIGNED BY	TRACED BY	CHECKED BY
BRIDGE ENGINEER	CHIEF ENGINEER	

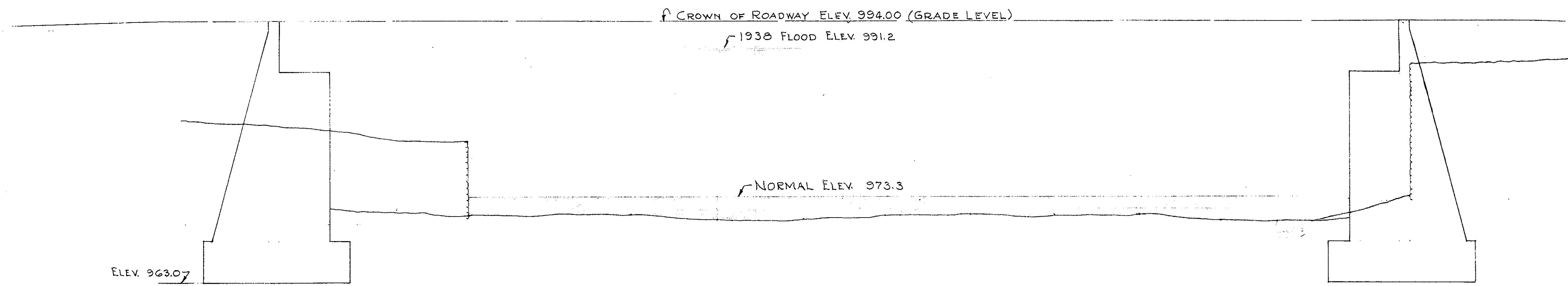
SHEET No. 4 OF 67

BRIDGE No. C-21-2

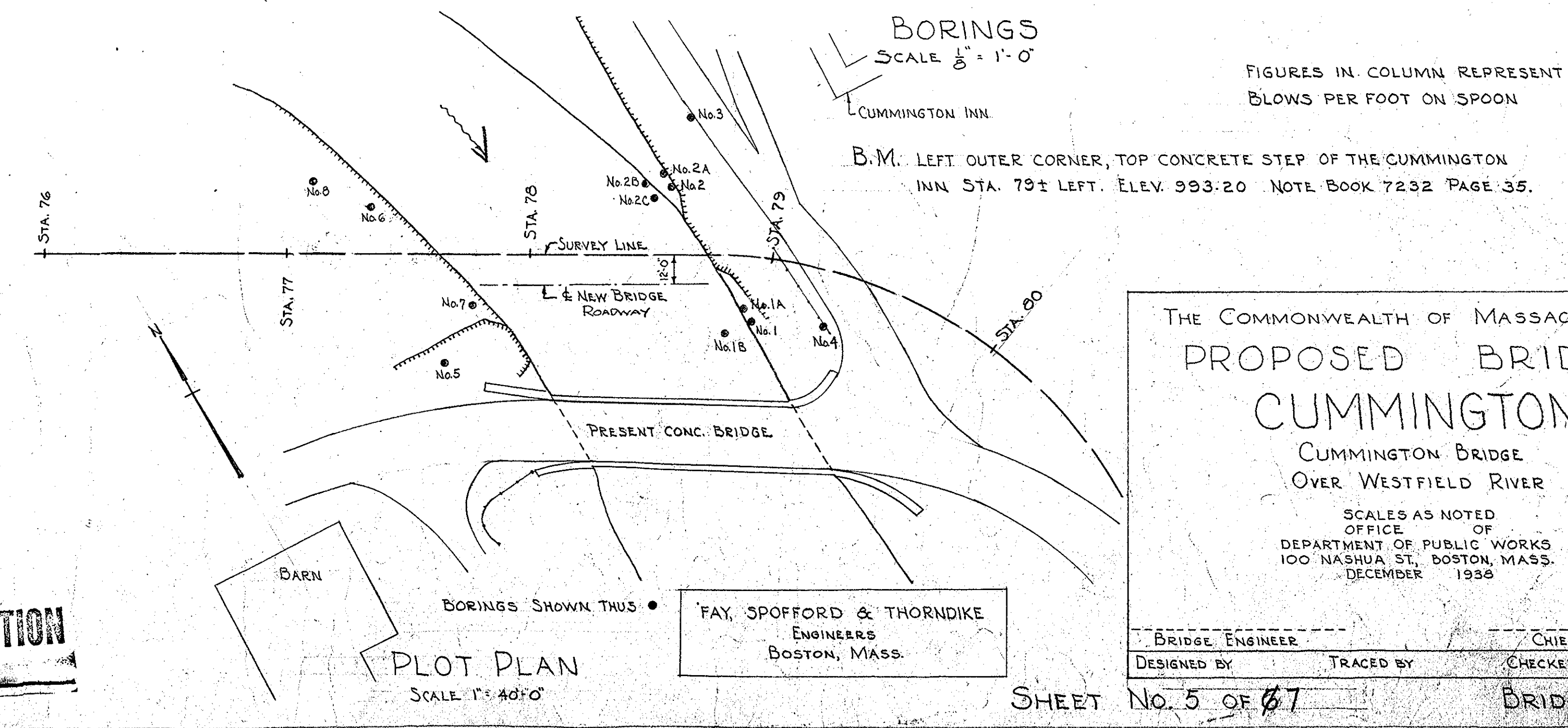
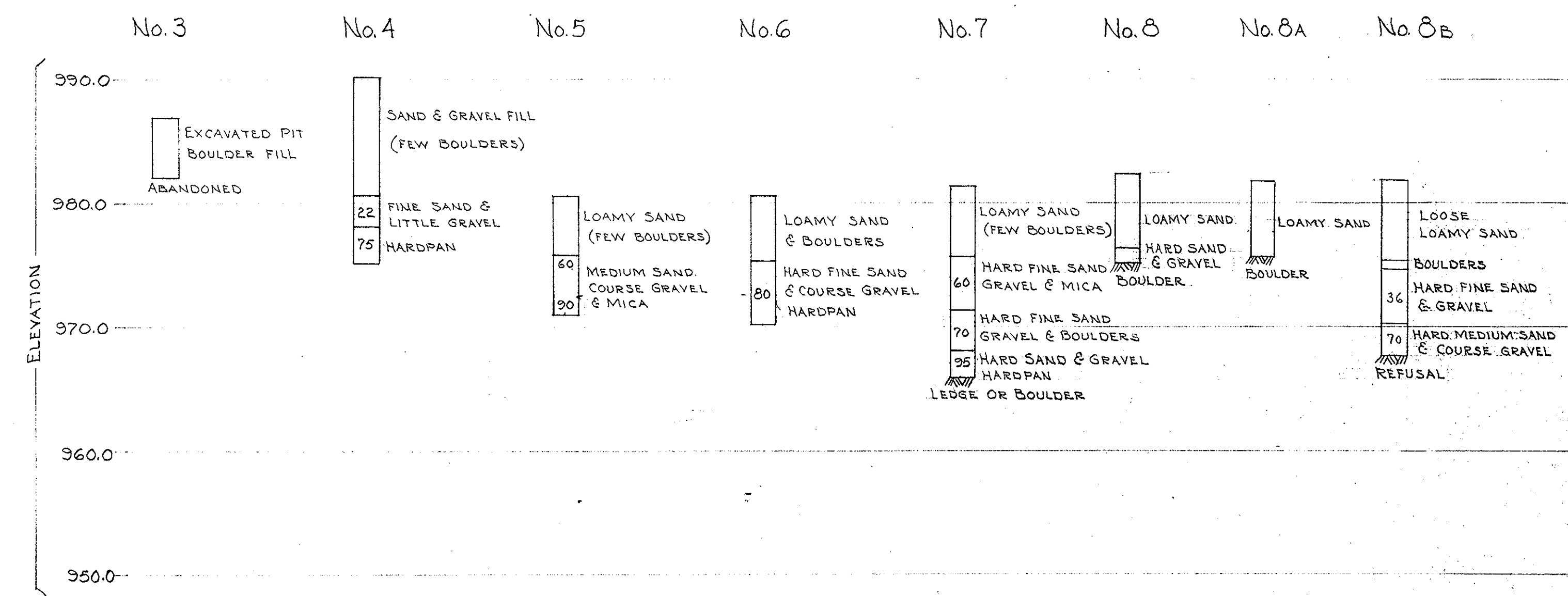
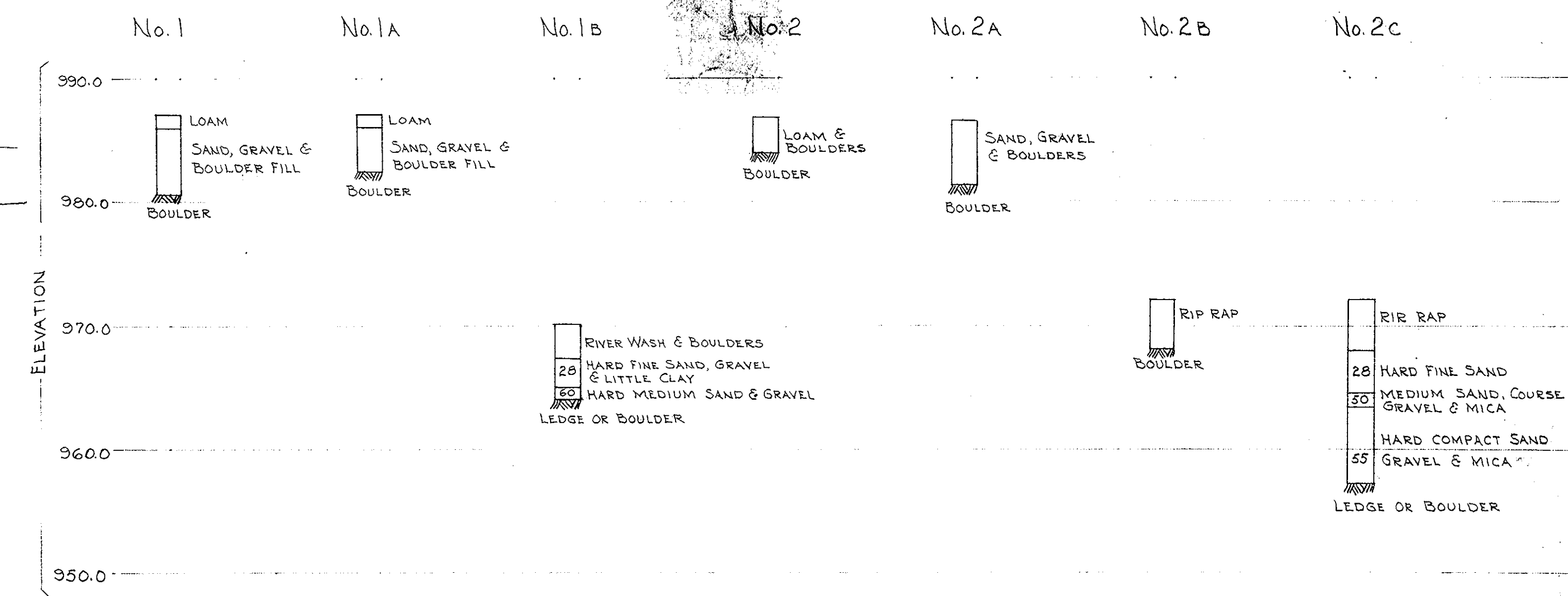
FOR
CONSTRUCTION
DATE 3/15/39

DETAIL OF BEARINGS
AT & OF ROADWAY
FOR SKEW FLOOR BEAMS
SCALE $1\frac{1}{2}''=1'-0''$

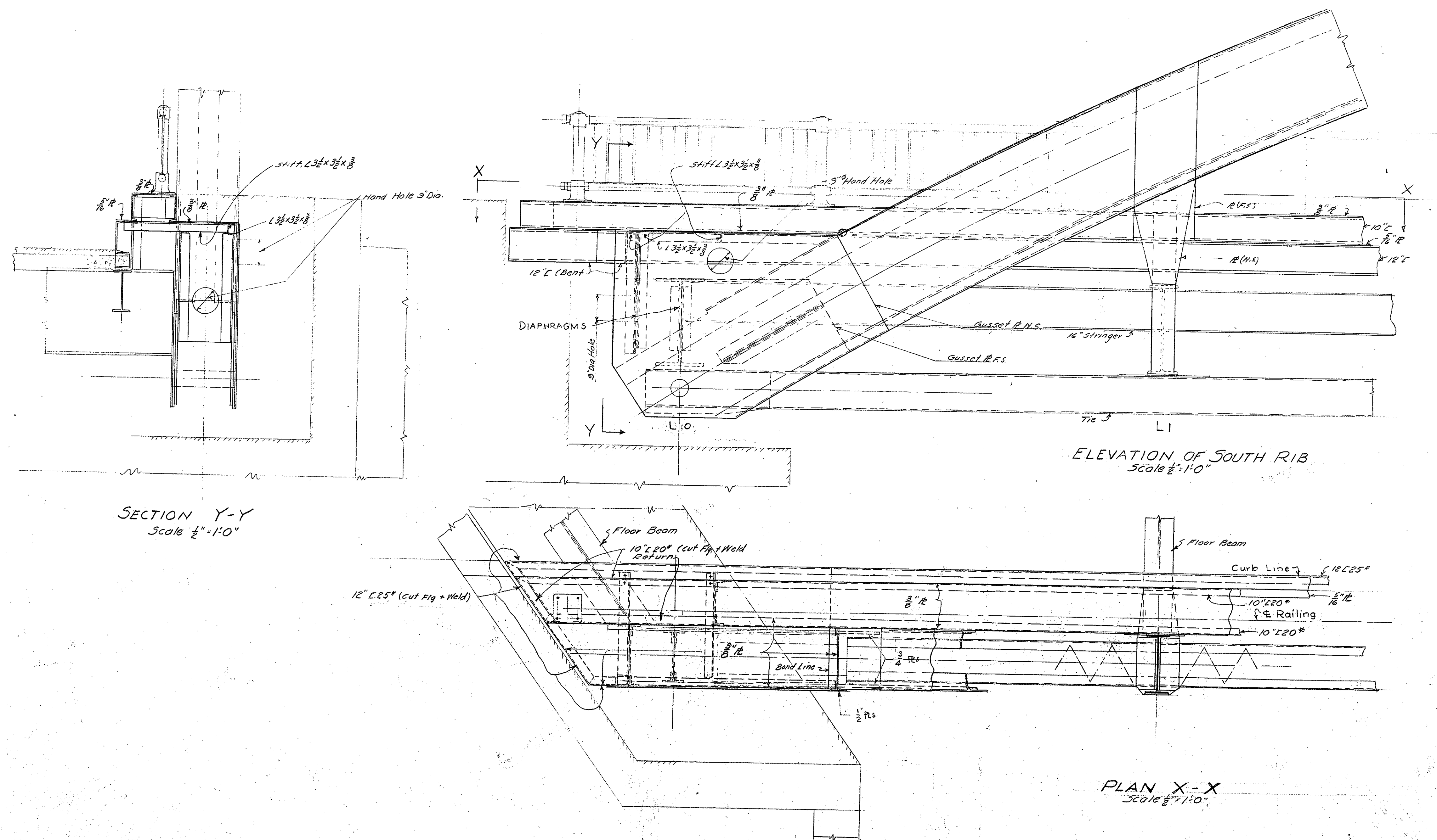
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ENGINEERS
BOSTON, MASS.



SECTION ON $\frac{1}{8}$ OF ROADWAY
 SCALE $\frac{1}{8}$ " = 1'-0"



FOR
 CONSTRUCTION
 DATE 3/15/39



NOTE:
 End Detail shown is typical for South Arch Rib.
 (L_s will be opposite hand)
 This drawing supplements Sheet No. 2 and No. 3 of
 Bridge No. C-21-2.

FAY, SPOFFORD & THORNDIKE
 ENGINEERS
 BOSTON, MASS.

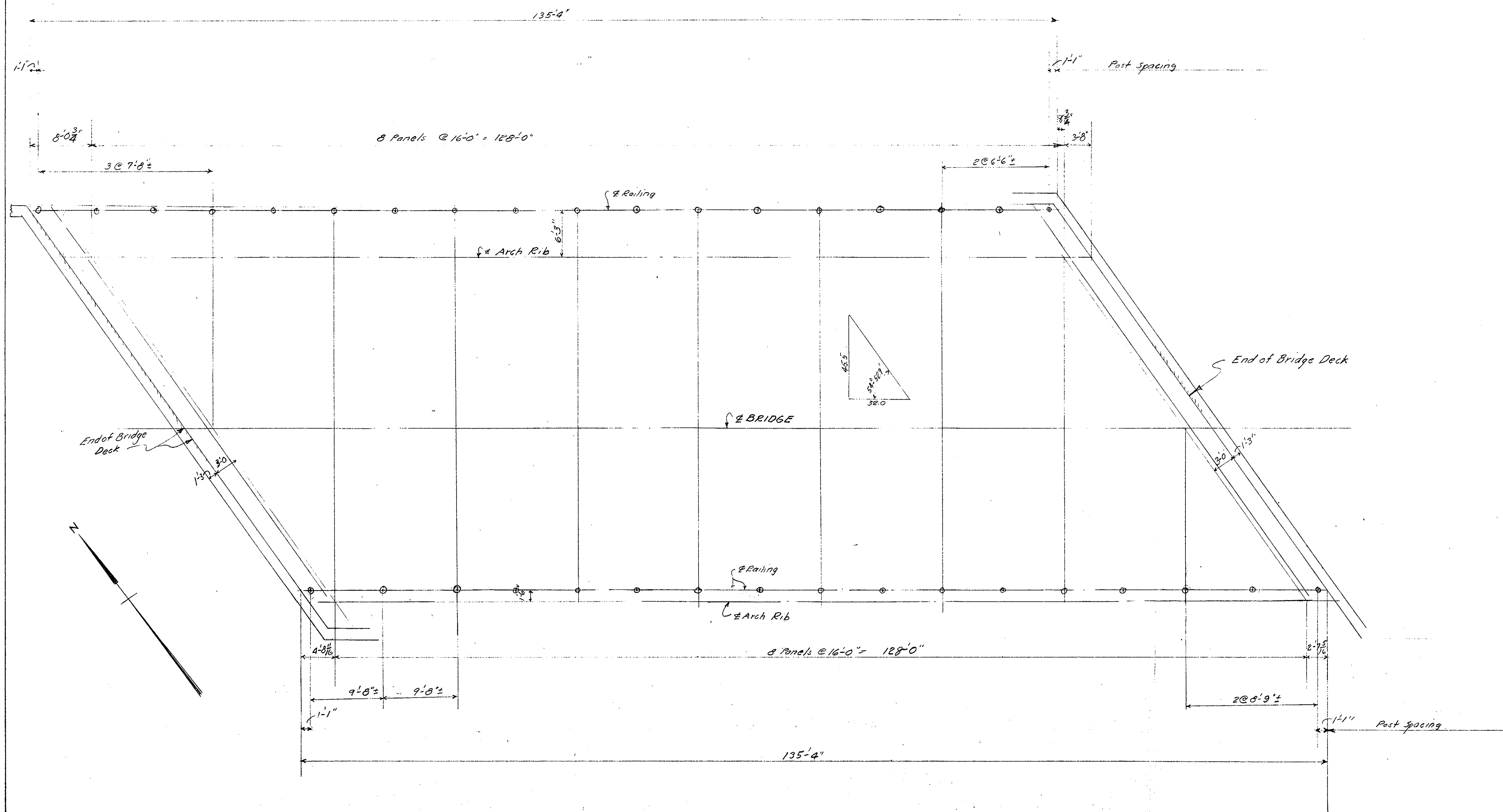
THE COMMONWEALTH OF MASSACHUSETTS
 PROPOSED BRIDGE
 CUMMINGTON
 CUMMINGTON BRIDGE
 OVER WESTFIELD RIVER

SCALES AS NOTED
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 100 NASHUA ST., BOSTON, MASS.
 APRIL 1939.

BRIDGE ENGINEER
 DESIGNED BY
 TRACED BY
 CHECKED BY
 CHIEF ENGINEER

SHEET No 6 of 67

BRIDGE No. C-21-2



NOTE:
This drawing supplements Sheet No 3
and No. 6 of Bridge No C-21-2

FOR
CONSTRUCTION
DATE 4/26/39

PLAN OF RAILING ON BRIDGE
Scale 1/8" = 1'-0"

FAY, SPOFFORD & THORNDIKE
ENGINEERS
BOSTON, MASS.

THE COMMONWEALTH OF MASSACHUSETTS
PROPOSED BRIDGE
CUMMINGTON
CUMMINGTON BRIDGE
OVER WESTFIELD RIVER
SCALES AS NOTED
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100 NASHUA ST., BOSTON, MASS.
APRIL 1939

BRIDGE ENGINEER
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SHEET No. 7 OF 7
BRIDGE