

GENERAL NOTES

FOUNDATION: May be altered if necessary to suit conditions of construction.

DATE & SEAL: To be located on northwesterly & southeasterly face of frame. See detail on Sheet 4.

DESIGN: According to Specifications of the American Association of State Highway Officials for H-20-44 loading.

BENCHMARK: Sta. 145+90 - 200' Lt. Square cut in boulder Elev. 127.00. Sea Level Datum of 1929.

ESTIMATED QUANTITIES (NOT GUARANTEED)

BRIDGE EXCAVATION	1530	1400 CU. YDS.
CLASS B ROCK EXCAVATION	200	50 CU. YDS.
GRAVEL BORROW	800	600 CU. YDS.
CLASS BIT. CONC. PAVEMENT (TYPE I)	70	66 TONS
CEM. CONC. MASONRY CLASS A	1100	980 CU. YDS.
CEM. CONC. MASONRY CLASS B	1700	1350 CU. YDS.
STEEL REINFORCEMENT OF STRUCTURES	1400	1300 POUNDS
STRUCTURAL STEEL	1260	1280 POUNDS
BITUMINOUS DAMP-PROOFING	540	1200 SQ. YDS.
MEMBRANE WATERPROOFING (3PLY)	520	830 SQ. YDS.
METAL BRIDGE RAILINGS (3 PIPE CHANNEL POST)		290 LIN. FT.
GRANITE CURB TYPE VA STR (6"x11")		300 LIN. FT.
GRANITE EDGING TYPE SFA		130 LIN. FT.
STONE FACING (OLD YANKEE)	2450	3050 SQ. FT.
STEEL GRID FLOORING		650 SQ. FT.

REVISED QUANTITIES 1-17-50

BORING NOTES

Location of Borings shown on Key Plan thus: ● #1.
Borings taken for purposes of design and show conditions of boring points only but do not necessarily show nature of material to be encountered in connection with the construction of the bridge.
Figures in columns indicate blows per foot on a 1" pipe produced by a 30" drop of a 140" hammer.
Samples from test borings are available and may be seen at the office of the Bridge Engineer Mr. R. G. Spottford, Room 609.

BORING DATA

Scale: 1/4" = 1'-0"
Borings taken September 1949

PLAN
Scale: 1" = 40'-0"

PROFILE N.C.H.

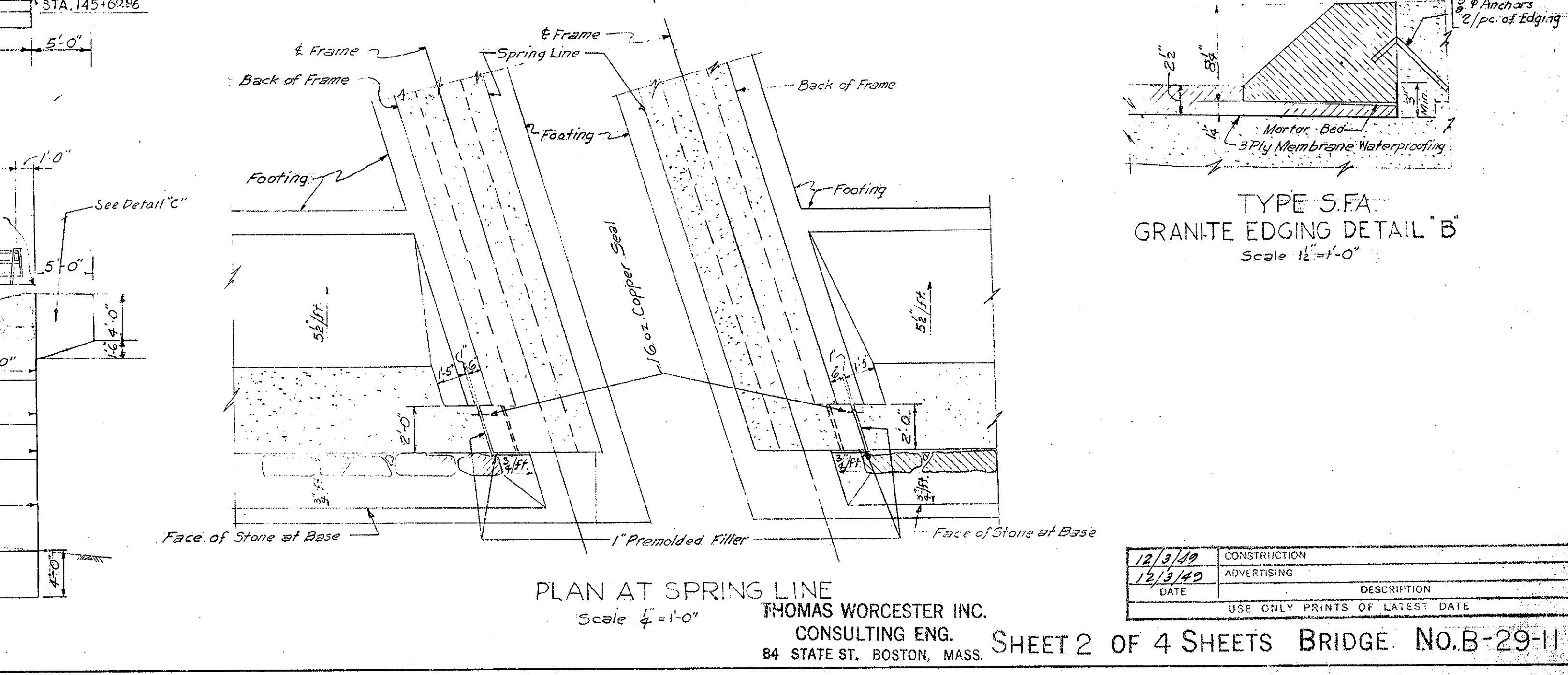
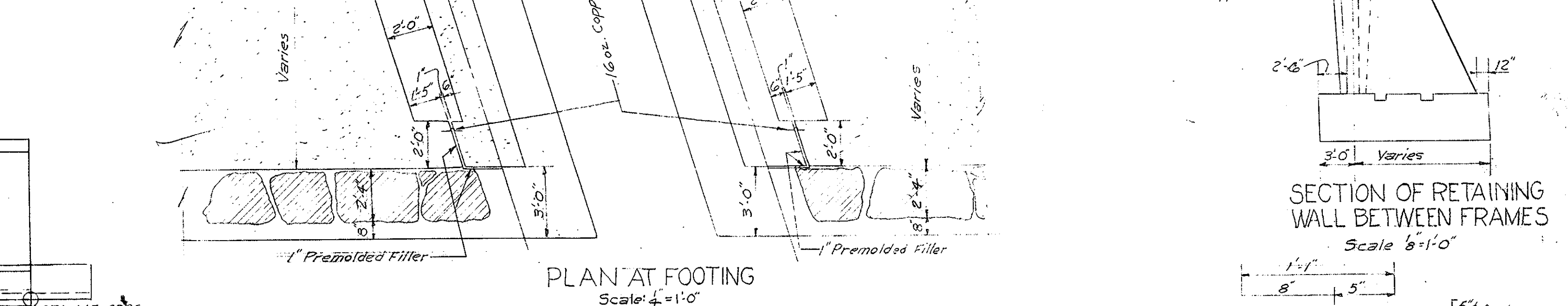
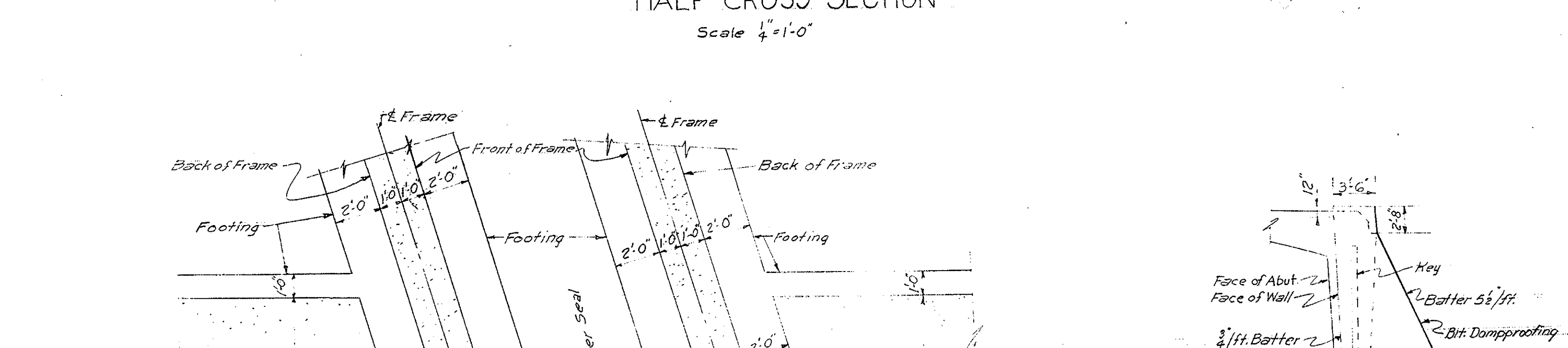
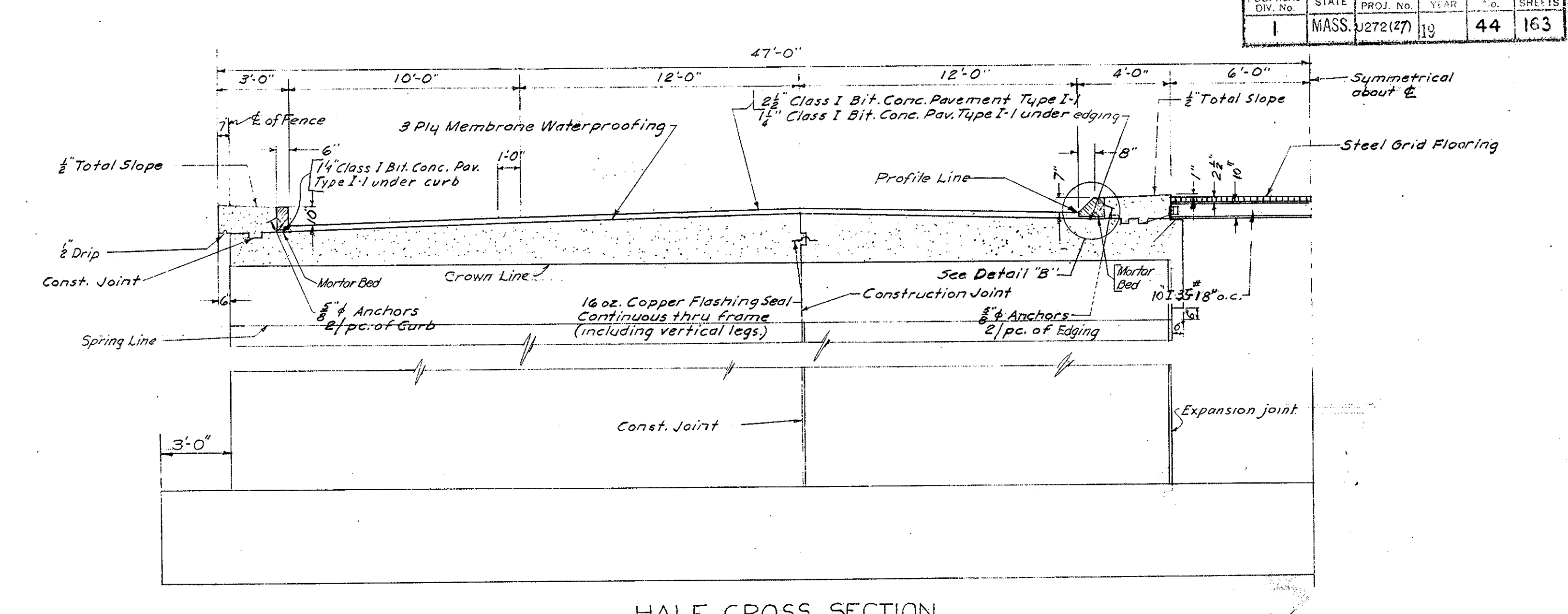
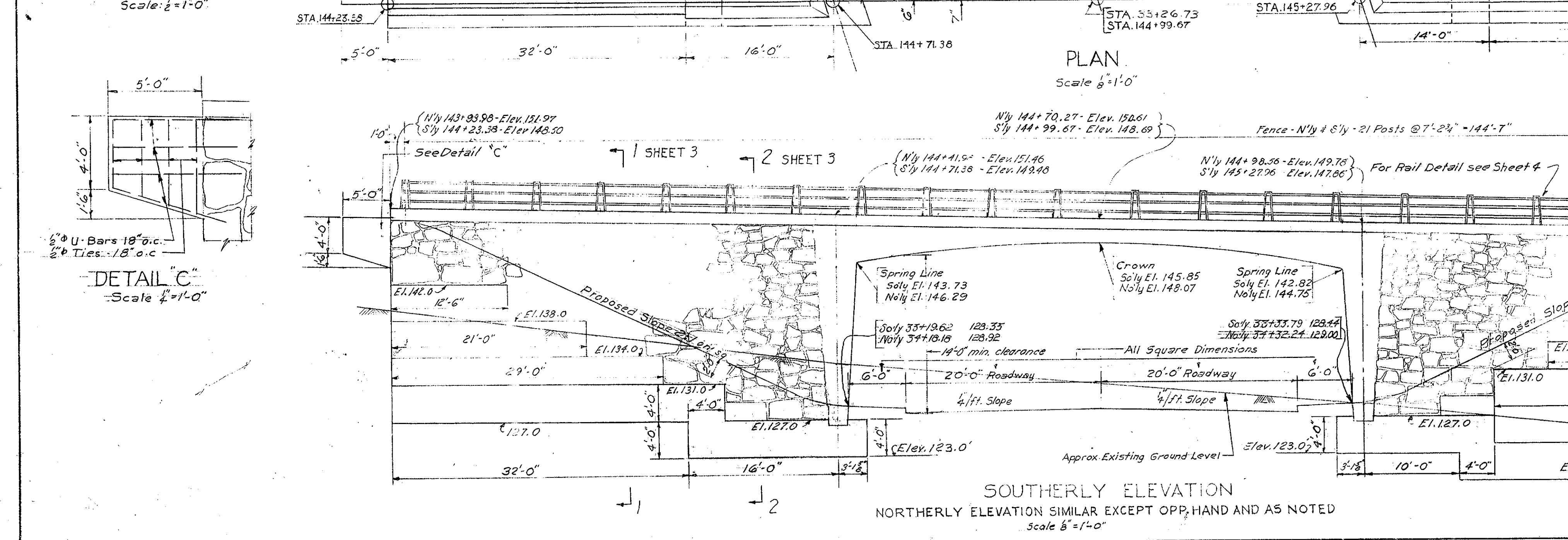
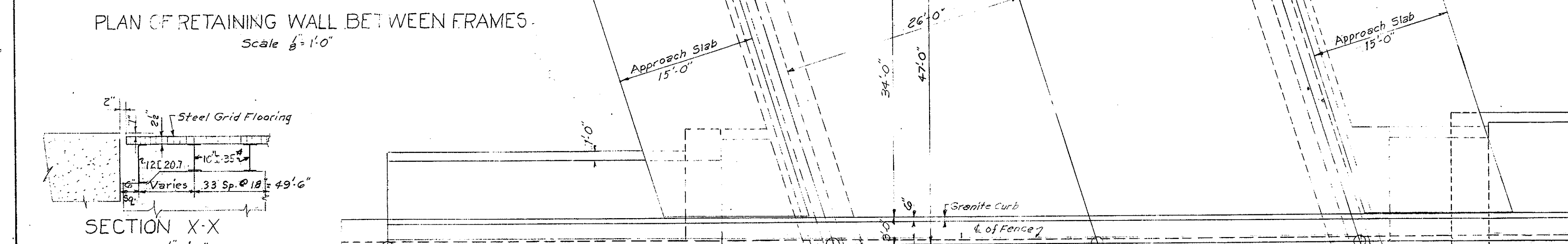
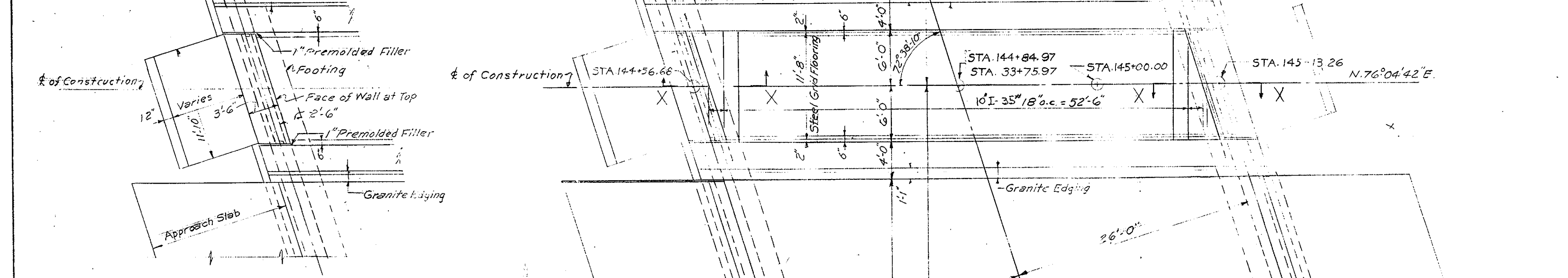
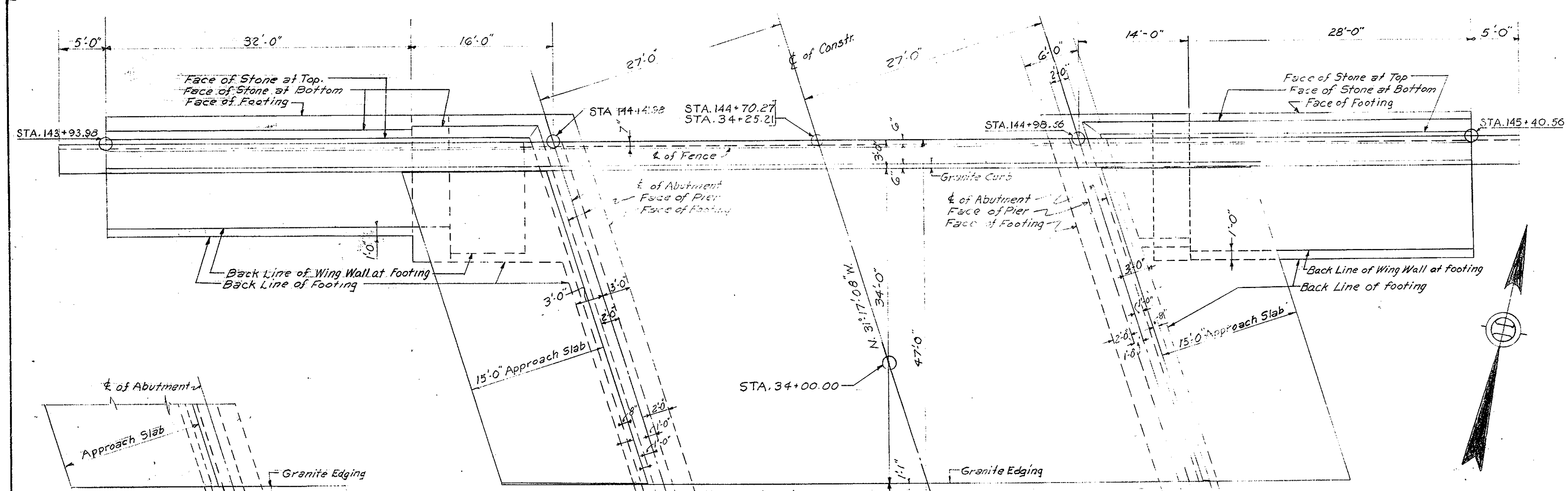
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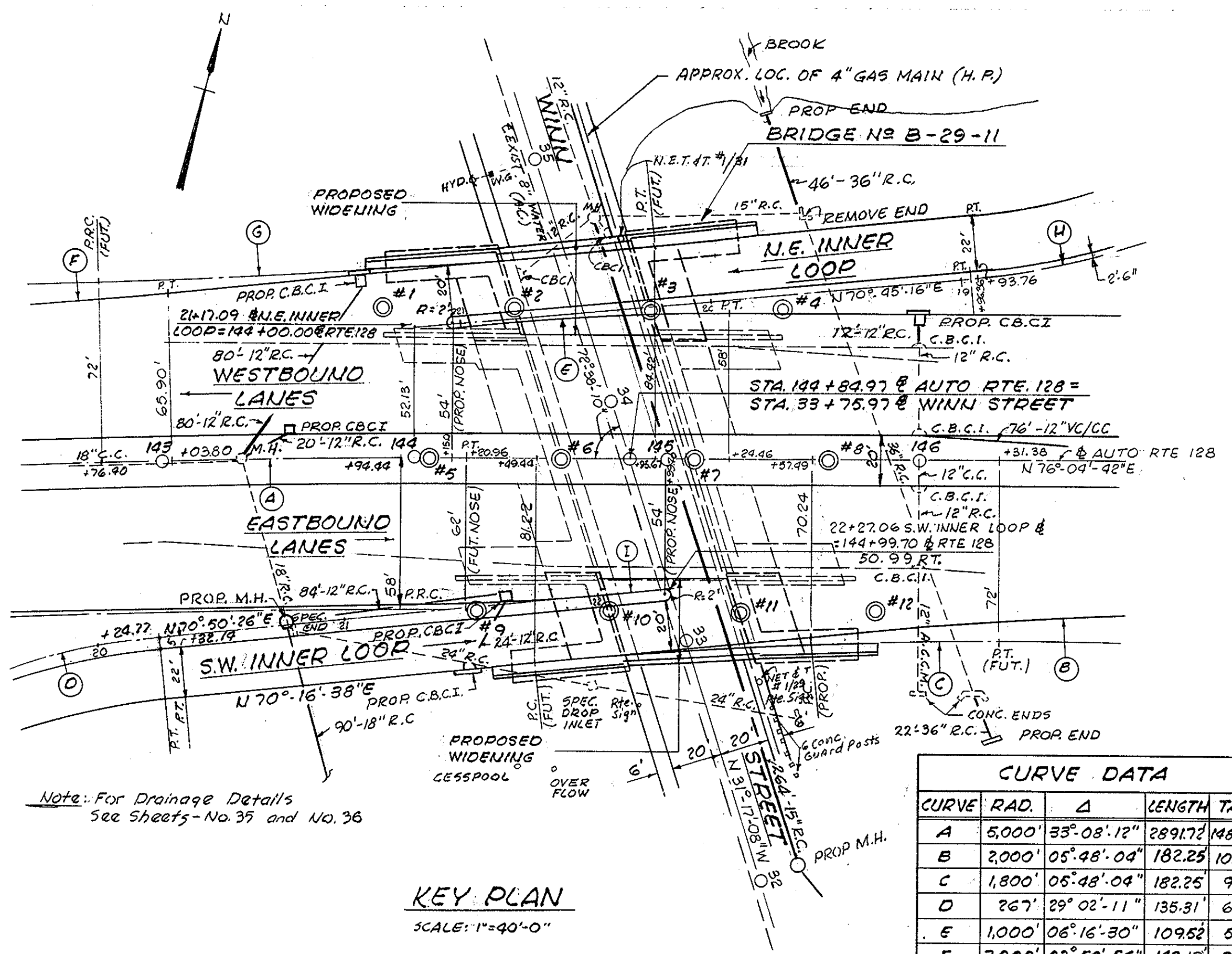
PROFILE WINN STREET

Scale: Hor. 1" = 40'-0" Scale: Vert. 1" = 8'-0"

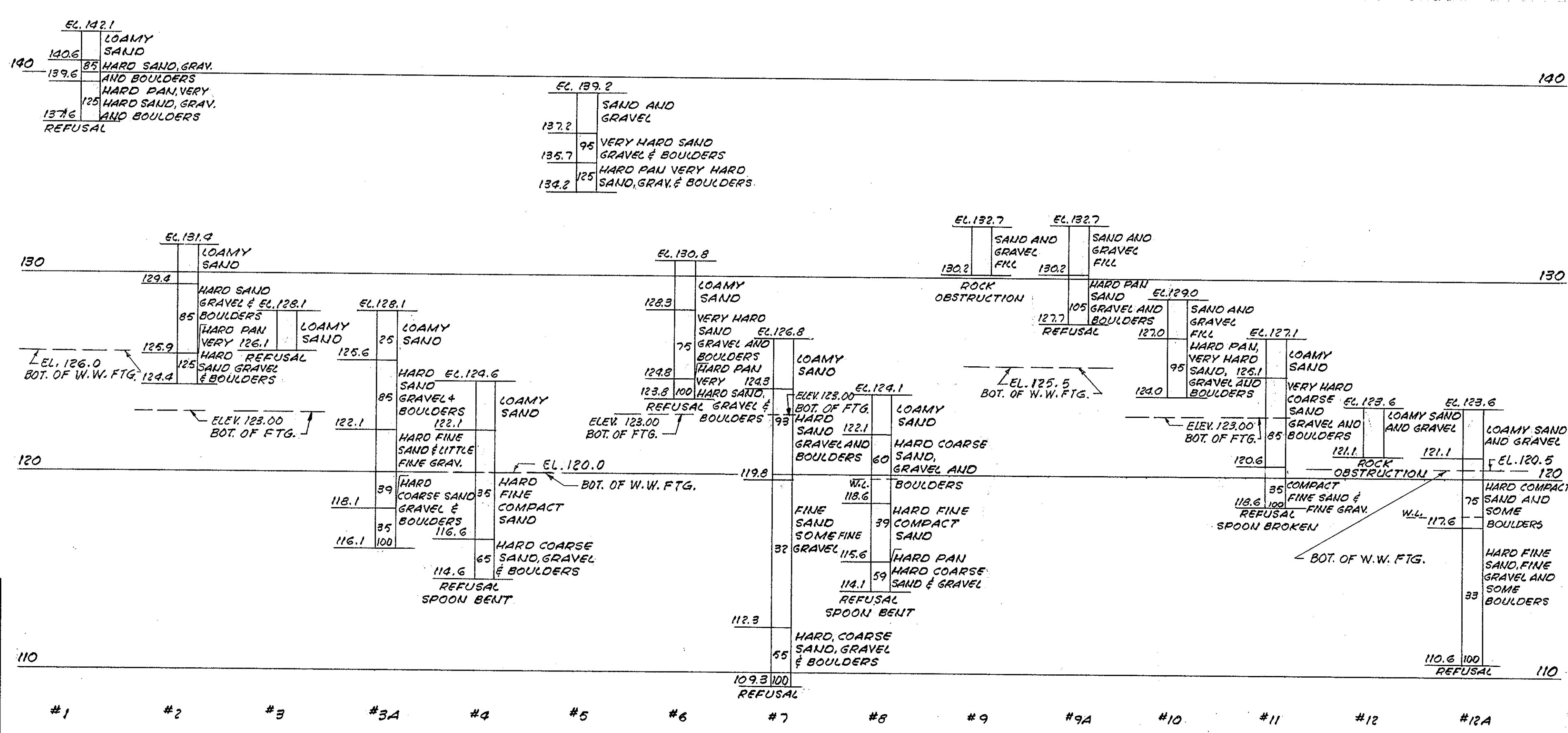
1-17-50 SHEET 43	ESTIMATED QUANTITIES	REVISED
DATE SHEET NO.	DESCRIPTION	
ADVERTISING 12/3/49	CONSTRUCTION 1/5/49	
THE COMMONWEALTH OF MASSACHUSETTS		
PROPOSED BRIDGE		
NORTHERN		
CIRCUMFERENTIAL HIGHWAY		
OVER WINN STREET - BURLINGTON		
STA. 144+84.97		
SCALES AS NOTED		
OFFICE OF		
DEPARTMENT OF PUBLIC WORKS		
100 NASHUA ST. - BOSTON, MASS.		
NOVEMBER, 1949		
R. G. Spottford	BRIDGE ENGINEER	M. C. Conner
DESIGNED BY	TRACED BY	CHECKED BY
SHEET 43 OF 4 SHEETS BRIDGE NO. B-29-11		

THOMAS WORCESTER INC.
CONSULTING ENG.
84 STATE ST. BOSTON, MASS.

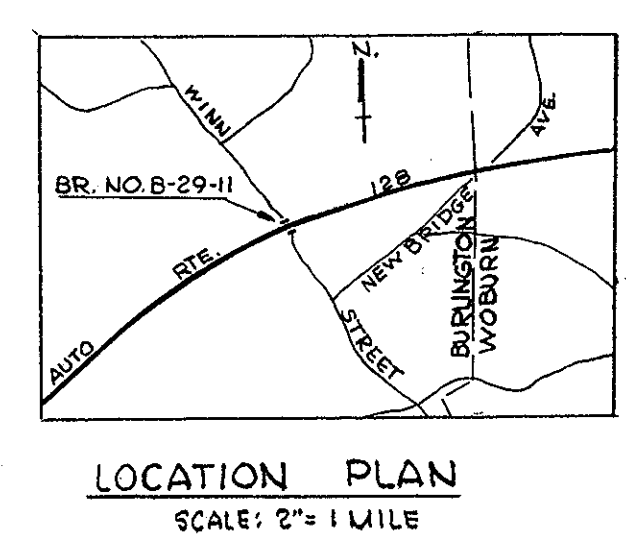
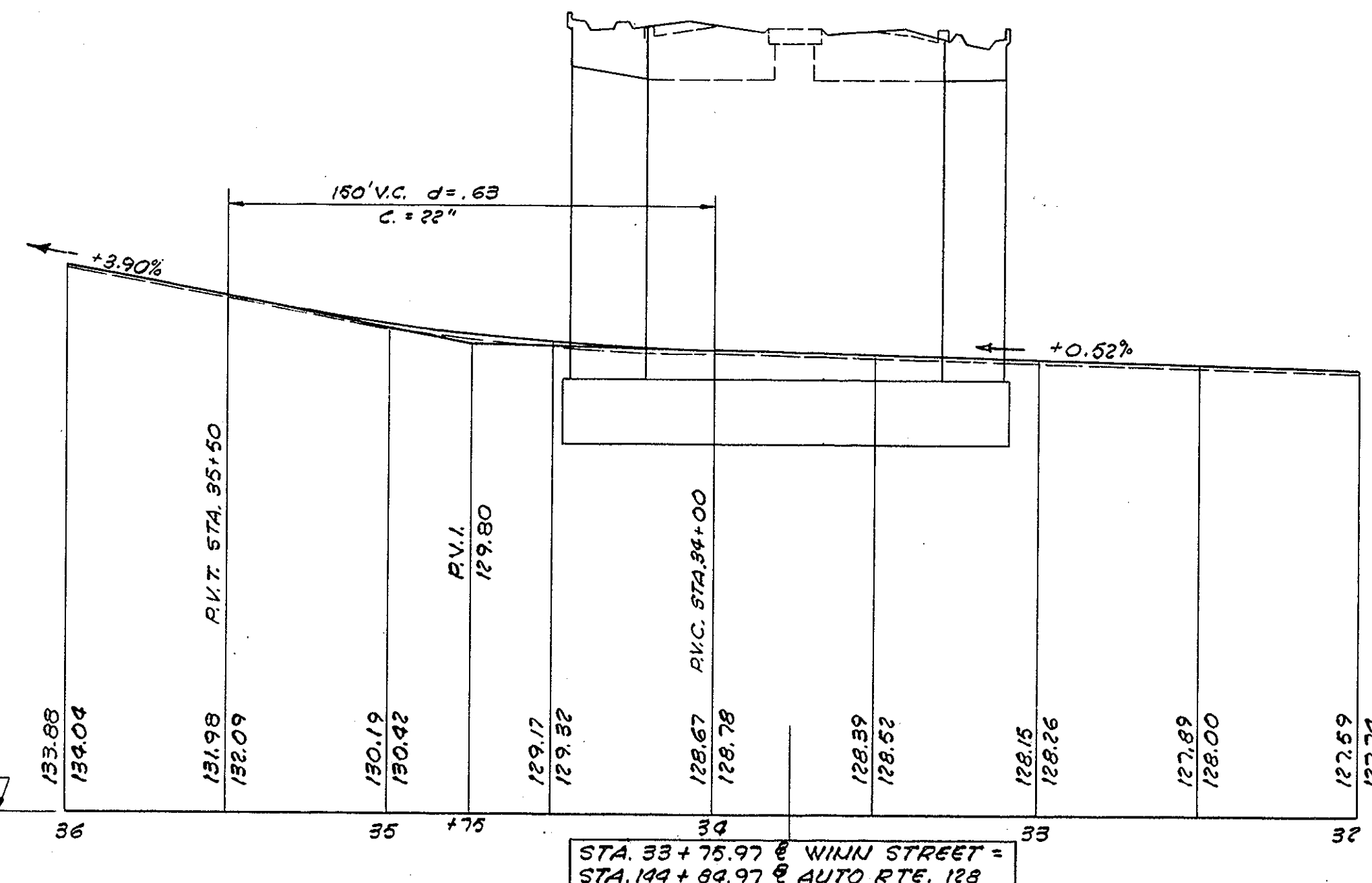
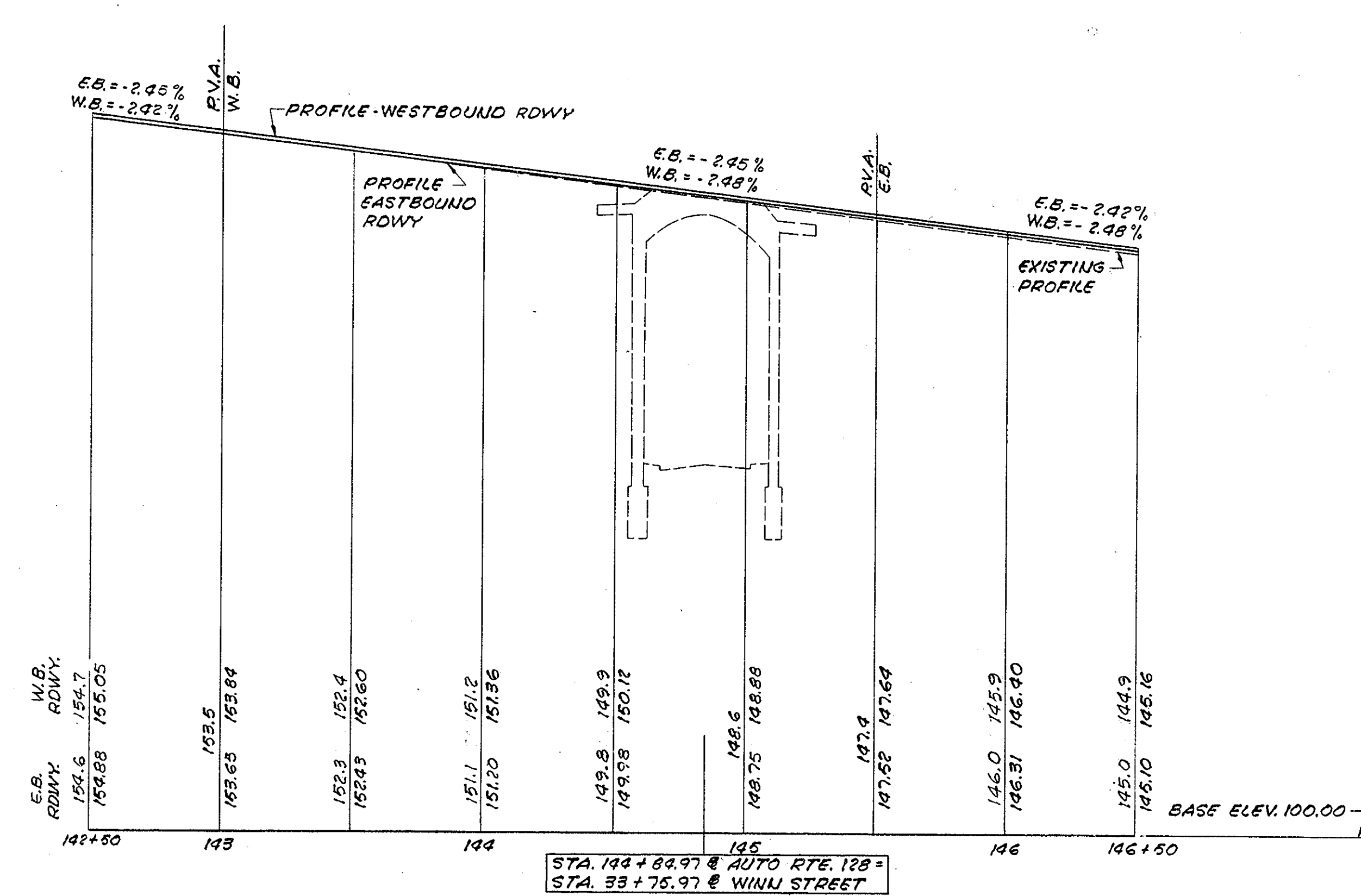




CURVE	RAD.	Δ	LENGTH	TAN.
A	5,000'	33° 08' 12"	289.17	149.75
B	2,000'	05° 48' 04"	182.25	101.33
C	1,800'	05° 48' 04"	182.25	91.20
D	267'	29° 02' 11"	135.31	69.14
E	1,000'	06° 16' 30"	109.62	64.80
F	3,000'	02° 50' 56"	149.17	74.56
G	3,000'	04° 13' 39"	221.35	110.72
H	264.5'	28° 57' 06"	133.65	68.29
I	1,000'	06° 00' 48"	104.95	52.52



BORING NOTES
 LOCATION OF BORINGS SHOWN ON KEY PLAN THUS: (C#)
 BORINGS TAKEN FOR PURPOSE OF DESIGN AND SHOW CONDITIONS AT BORING POINTS ONLY, BUT DO NOT NECESSARILY SHOW NATURE OF MATERIAL TO BE ENCOUNTERED IN CONNECTION WITH THE CONSTRUCTION OF THE BRIDGE.
 FIGURES IN COLUMNS INDICATE BLOWS PER FOOT ON A 1" x PIPE PRODUCED BY A 30" DROP OF A 140# HAMMER.
 SAMPLES OF TEST BORINGS ARE NO LONGER AVAILABLE.
 BORINGS 1 THRU 12A TAKEN SEPT. 1949.



JUNE 3, 1961 ISSUED FOR CONSTRUCTION

THE COMMONWEALTH OF MASSACHUSETTS
 PROPOSED BRIDGE
 WIDENING
 BURLINGTON

AUTO ROUTE 128 STATION 144+84.97
 OVER WINN STREET STATION 33+75.97

SCALES AS NOTED
 OFFICE OF
 DEPARTMENT OF PUBLIC WORKS
 100 NASHUA ST. ~ BOSTON, MASS.
 JUNE 1961

DESIGNING ENGINEER
 UTILITY ENGINEERS, INC.
 BOSTON, MASS.

BRIDGE ENGINEER
 CHIEF ENGINEER

SHEET 1 OF 4 SHEETS BRIDGE NO. B-29-11

FOUNDATIONS
 MAY BE ALTERED, IF NECESSARY, TO SUIT CONDITIONS ENCOUNTERED IN CONSTRUCTION.

DATE AND SEAL
 TO BE LOCATED ON THE INSIDE FACES OF NORTHEASTERN AND SOUTHWESTERN END POSTS, A SHEET SHOWING SIZE AND CHARACTER OF MATERIALS WILL BE FURNISHED. SEAL WILL BE FURNISHED BY THE COMMONWEALTH AND PLACED BY THE CONTRACTOR. SEE DETAIL SHEET 4.

DESIGN
 IN ACCORDANCE WITH THE CURRENT SPECIFICATIONS OF THE A.A.S.H.O. (1957 ED.) FOR H-20-44 LOADING.

BENCH MARK
 STA. 143 + 51 180' RT. SQUARE CUT IN BOULDER EL. 142.49. SEA LEVEL DATUM 1929.

DIMENSIONS
 ALL DIMENSIONS AND DETAILS SHOWN FOR THE EXISTING STRUCTURE MUST BE CHECKED IN THE FIELD BY THE CONTRACTOR.

REINFORCEMENT
 ALL BARS SHALL HAVE DEFORMATIONS CONFORMING TO A.S.T.M. A-305. UNLESS OTHERWISE SHOWN ON THE PLANS, REINFORCING BARS SHALL BE LAPPED 20 DIAMETERS TO MAKE A SPLICE, EXCEPT THAT MAIN REINFORCING BARS NEAR THE TOP OF SLABS AND BEAMS HAVING MORE THAN 12 INCHES OF CONCRETE UNDER THE BARS SHALL BE LAPPED 35 DIAMETERS TO MAKE A SPLICE.

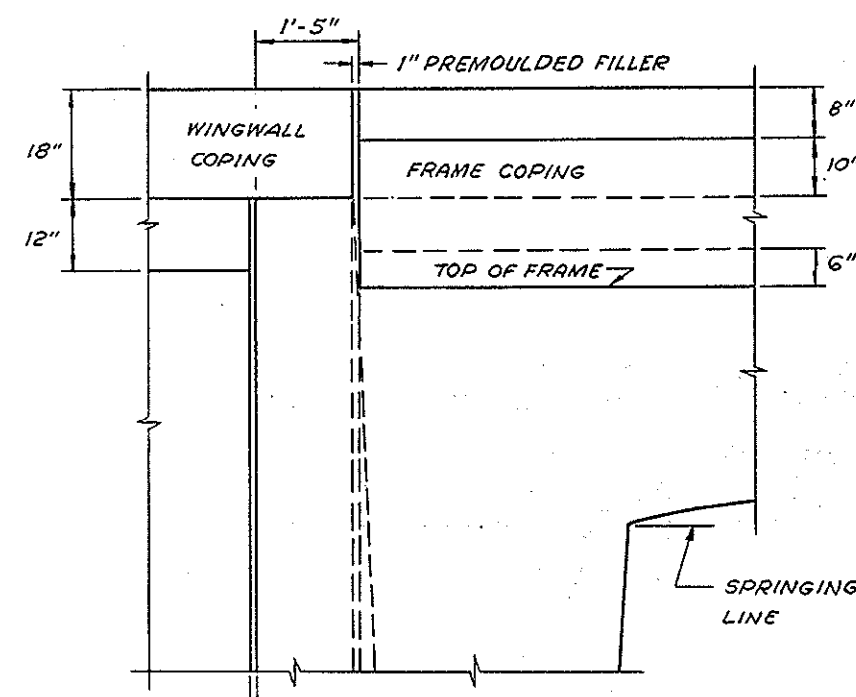
ESTIMATED QUANTITIES (NOT GUARANTEED)

BRIDGE EXCAVATION	870	C.Y.
CLASS B ROCK EXCAVATION	125	C.Y.
CONCRETE EXCAVATION	35	C.Y.
REINFORCED CONCRETE EXCAVATION	50	C.Y.
GRAVEL BORROW	1425	C.Y.
CRUSHED STONE FOR BASE COURSE	160	TONS.
BITUMEN FOR ROADWAY BASE COURSE	1110	GAL.
CLASS I BIT. CONC. PAVEMENT TYPE I-1	110	TONS.
BRIDGE STRUCTURE (B-29-11)	1	L.S.

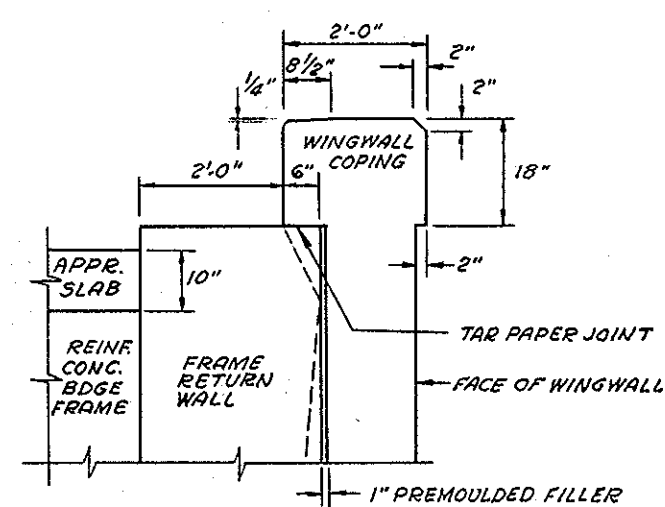
NOTE: ESTIMATED WEIGHT OF STEEL REINFORCEMENT FOR STRUCTURES (175,000 LBS.) AND ESTIMATED WEIGHT OF STRUCTURAL STEEL (4,500 LBS.) ARE PART OF ITEM 6-15-1; BRIDGE STRUCTURE (B-29-11) AND ARE NOT GUARANTEED.

BURLINGTON
NORTHERN CIRCUMFERENTIAL HIGHWAY

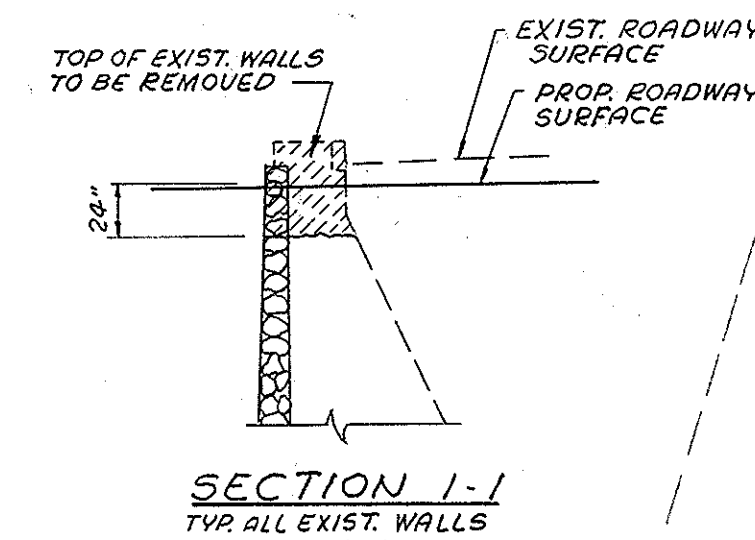
PUB. RD. DIV. NO.	STATE	FEDERAL AID PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	MASS.	U272(49)	1961	40	110



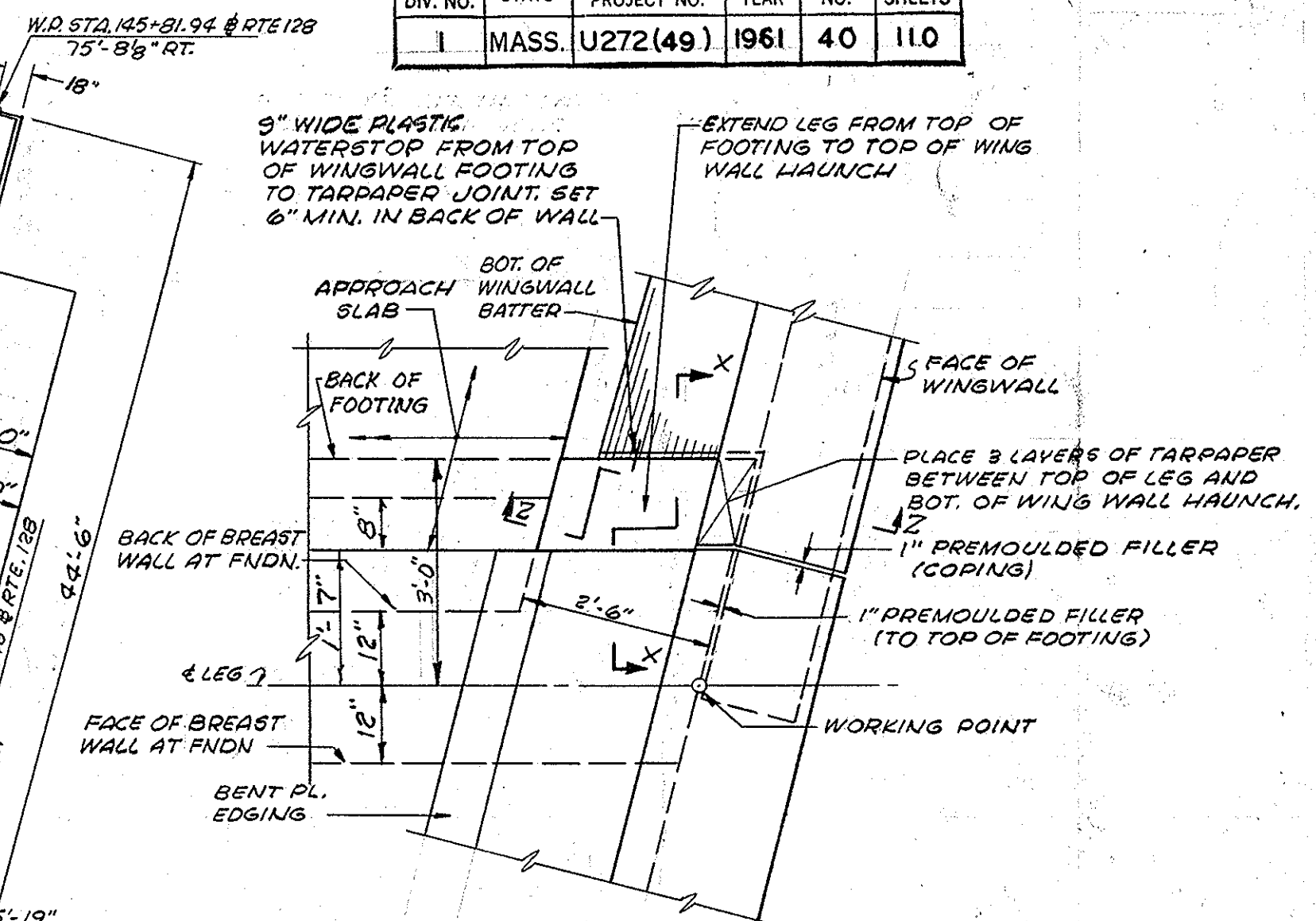
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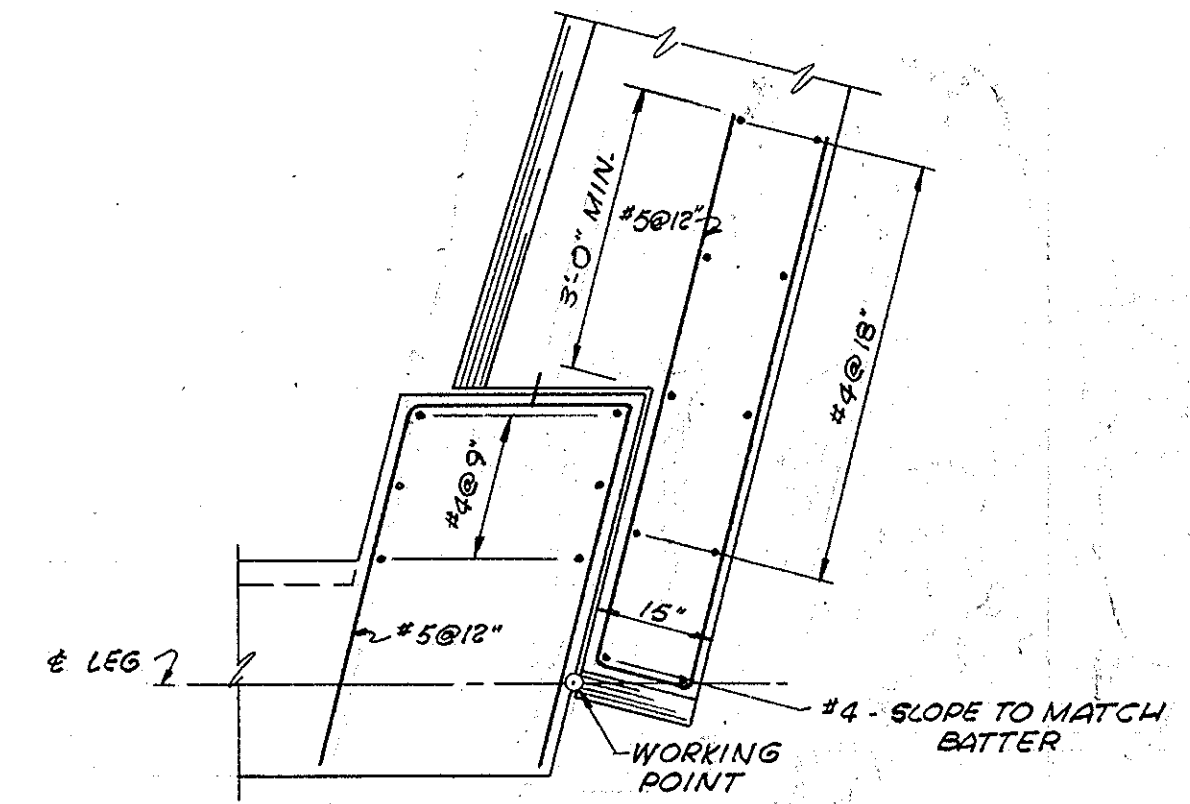
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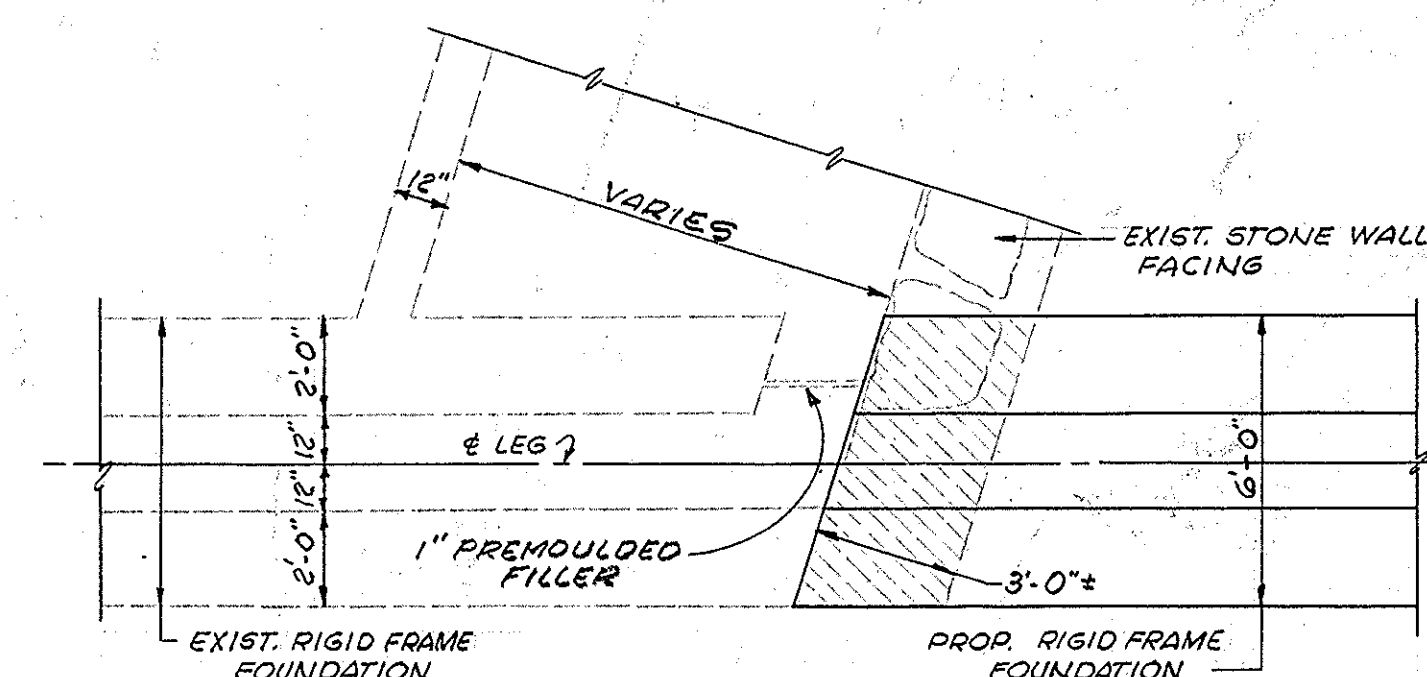
SECTION 1-1
TYP. ALL EXIST. WALLS
NO SCALE



TYPICAL CORNER DETAIL
SCALE: $\frac{1}{2}$ " = 1'-0"

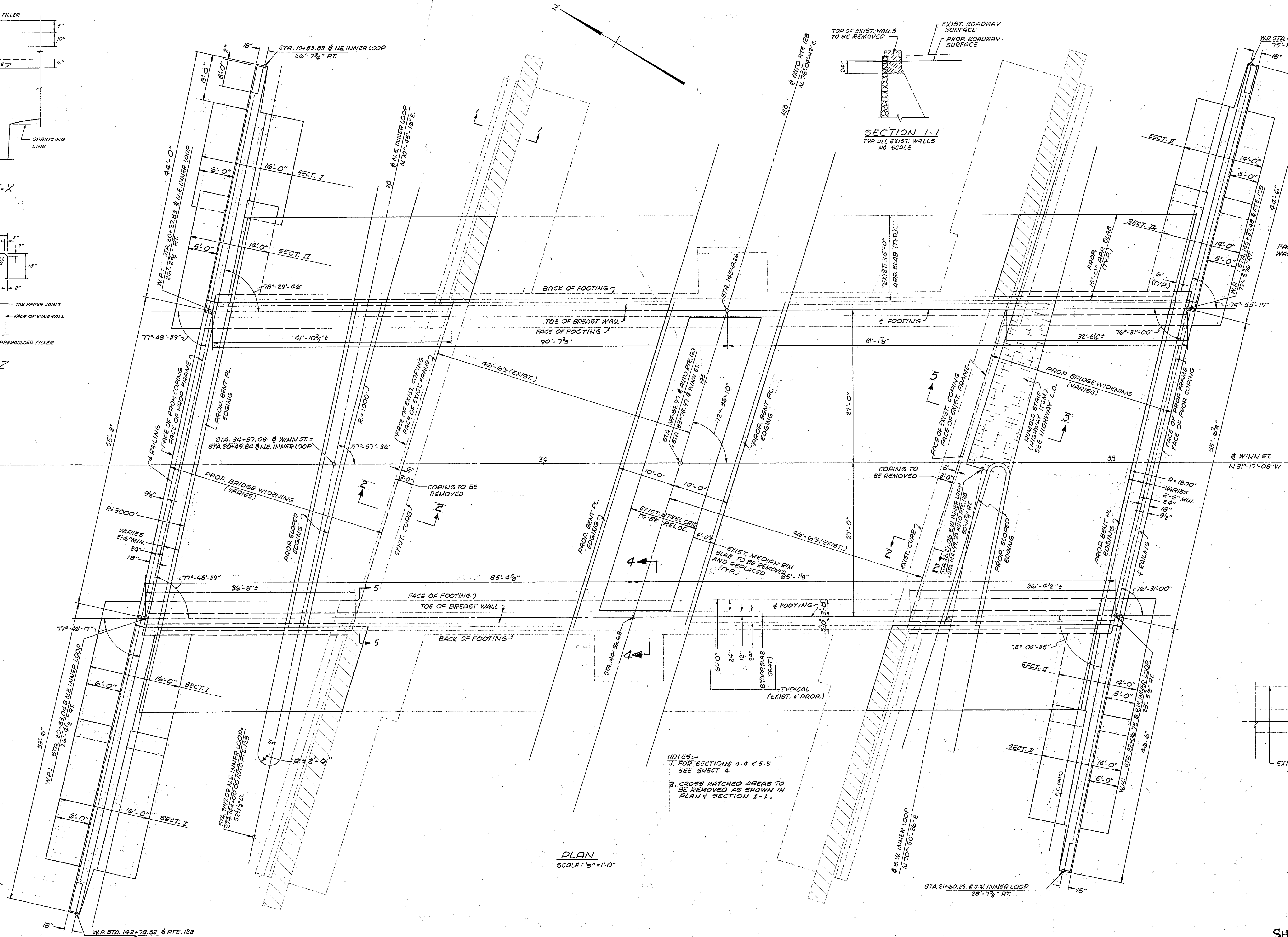


TYPICAL CORNER REINFORCEMENT
SCALE: $\frac{1}{2}$ " = 1'-0"



PLAN OF EXISTING WING CORNERS AT FOOTING
SCALE: $\frac{1}{4}$ " = 1'-0"

(HATCHED PORTION TO BE REMOVED)

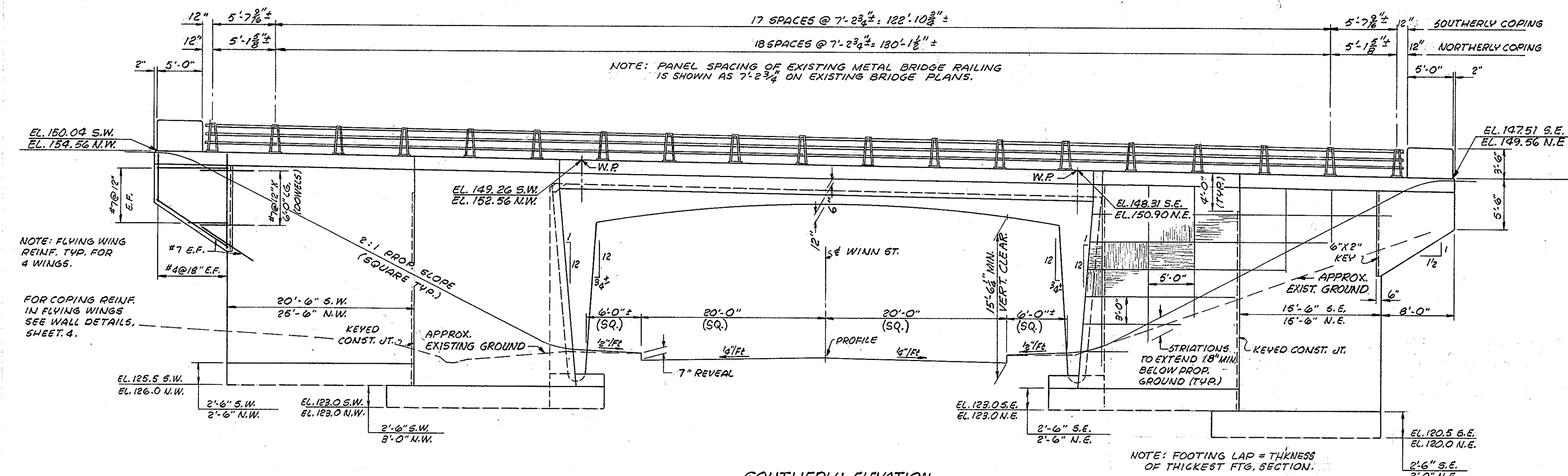


- NOTES:-
1. FOR SECTIONS 4-4 & 5-5
SEE SHEET 4.
2. CROSS HATCHED AREAS TO
BE REMOVED AS SHOWN IN
PLAN & SECTION 1-1.

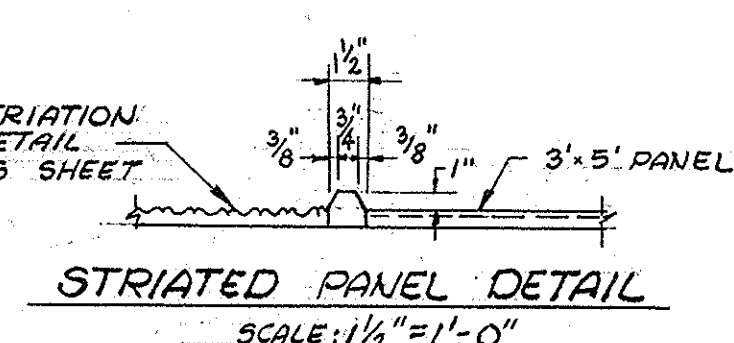
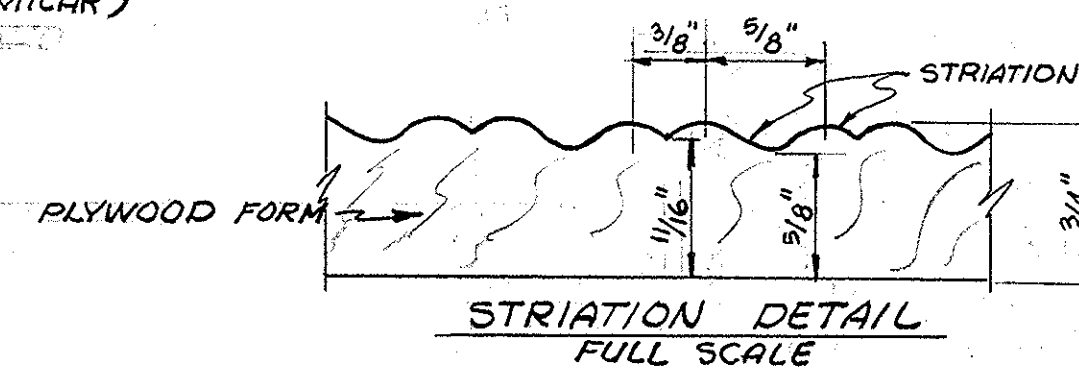
PLAN
SCALE: $\frac{1}{8}$ " = 1'-0"

DATE	ISSUED FOR CONSTRUCTION
JUNE 3, 1961	DESCRIPTION
	USE ONLY PRINTS OF LATEST DATE

PUB. RD. DIV. NO.	STATE	FEDERAL AID PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	MASS.	U272(49)	1961	41	110



SOUTHERLY ELEVATION
(NORTHERLY ELEVATION SIMILAR)
SCALE: 1/2" = 1'-0"

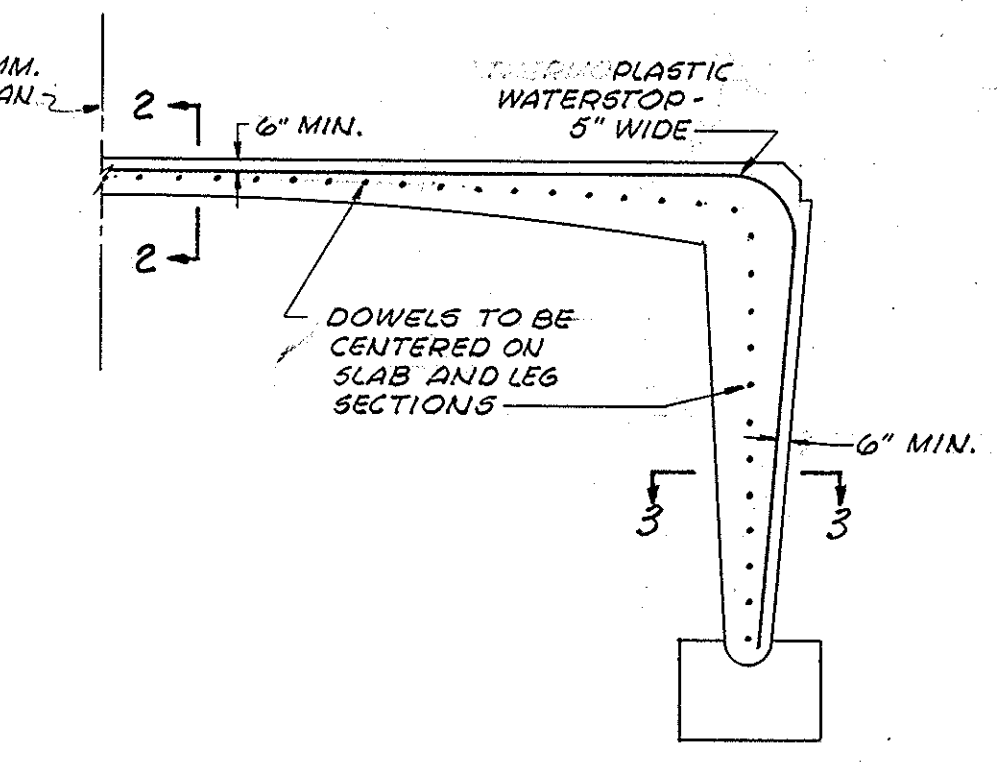


(A) #7 DOWELS X 9'-0" LONG @ 18" O.C. FOR LOCATION SEE "WATERSTOP & DOWEL LOCATION DETAIL".

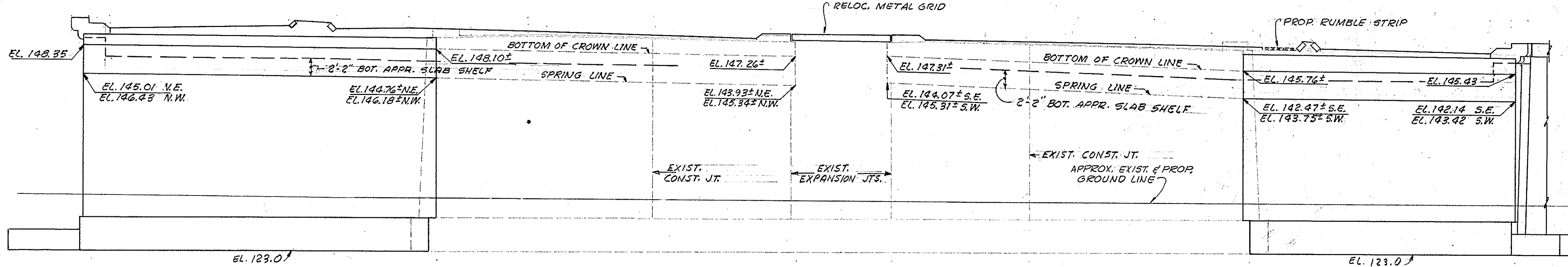
(B) 2" & DRILLED HOLES X 18" DEEP @ 18" O.C. GROUT DOWELS INTO HOLES WITH NON-SHRINK MORTAR.

(C) PLASTIC WATERSTOP 5" WIDE SET IN NON-SHRINK MORTAR.

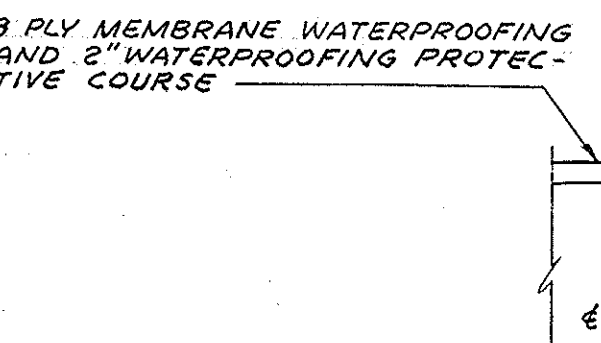
NOTE: IN ALL AREAS WHERE NEW MEMBRANE WATERPROOFING IS TO BE APPLIED TO EXIST. CONCRETE ALL DEPRESSIONS AND PROJECTIONS MUST BE LEVELED.



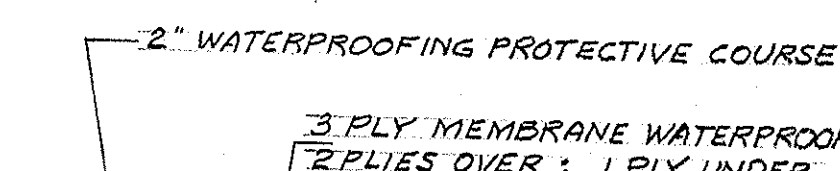
WATERSTOP & DOWEL LOCATION DETAIL
SCALE: 1/2" = 1'-0"



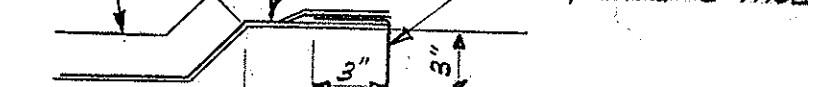
EASTERLY BREAST WALL ELEVATION
(WESTERLY BREAST WALL SIMILAR EXCEPT OPPOSITE HAND AND AS NOTED)
SCALE: 1/2" = 1'-0"



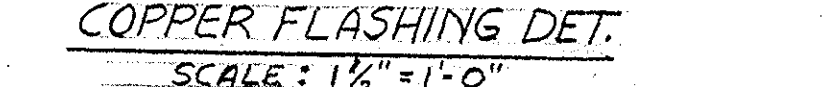
COPPER FLASHING DET.
SCALE: 1 1/2" = 1'-0"



SECTION 2-2
SCALE: 3/4" = 1'-0"



SECTION 3-3
SCALE: 3/4" = 1'-0"



SECTION 5-5
SCALE: 3/4" = 1'-0"



SECTION 5-5
SCALE: 3/4" = 1'-0"



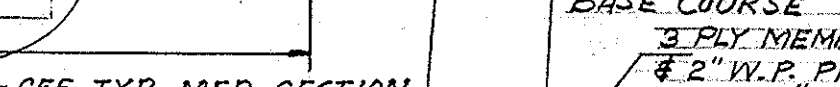
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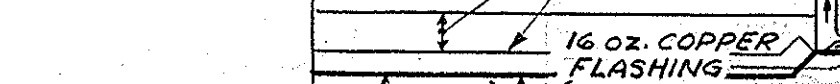
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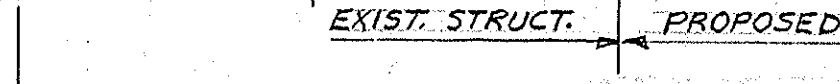
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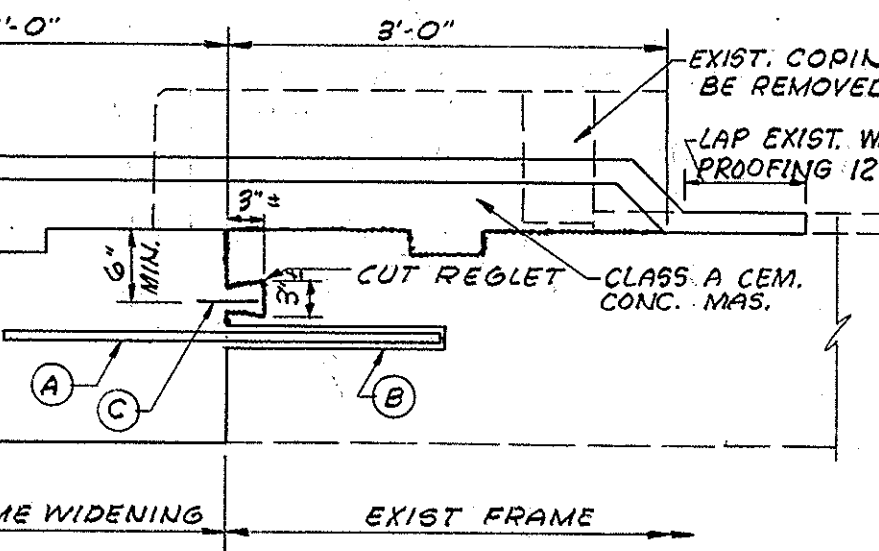
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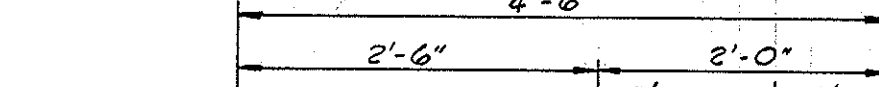
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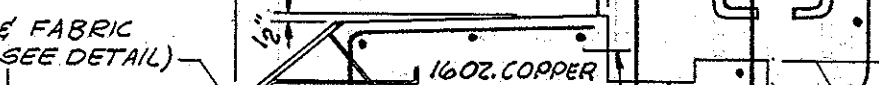
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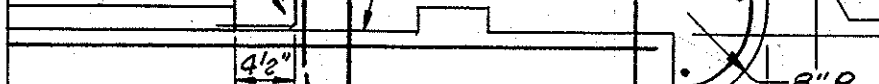
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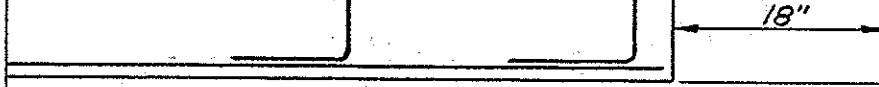
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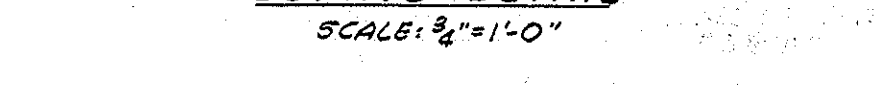
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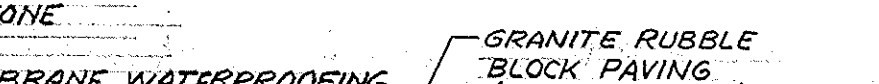
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SCALE: 3/4" = 1'-0"



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SCALE: 3/4" = 1'-0"



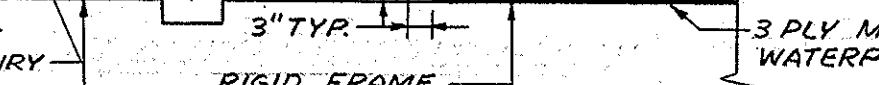
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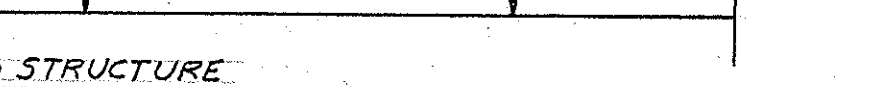
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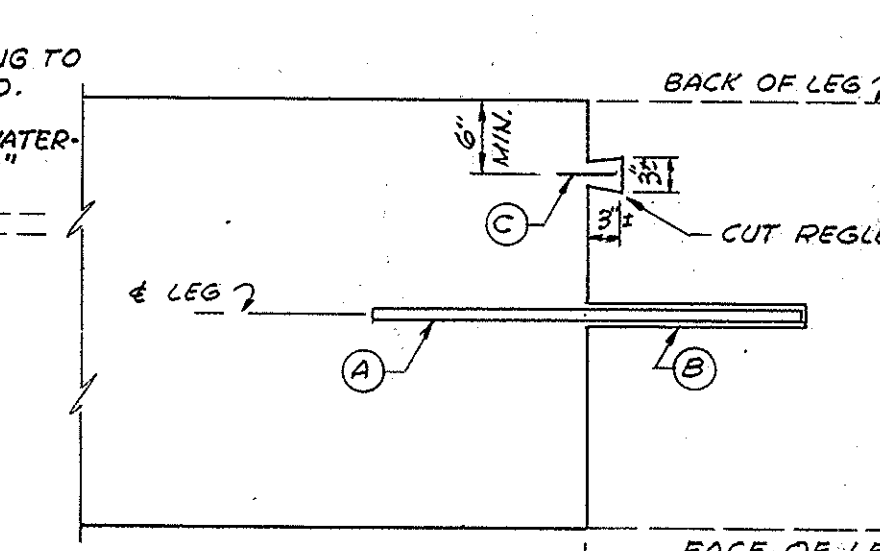
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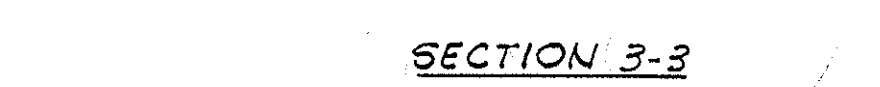
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SCALE: 3/4" = 1'-0"



SECTION 5-5
SCALE: 3/4" = 1'-0"



SECTION 2-2
SCALE: 3/4" = 1'-0"



SECTION 3-3
SCALE: 3/4" = 1'-0"



SECTION 5-5
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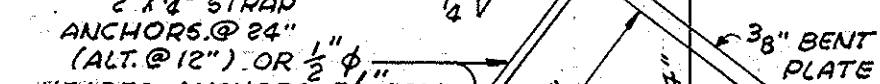
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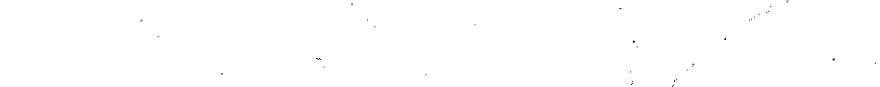
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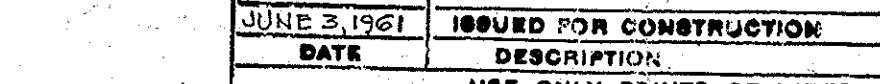
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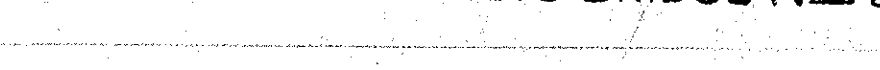
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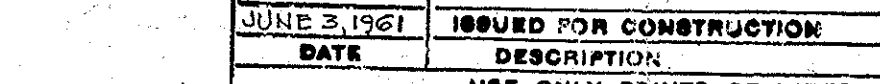
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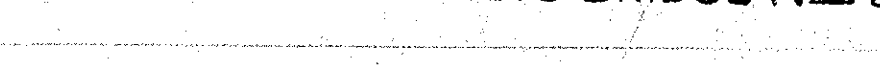
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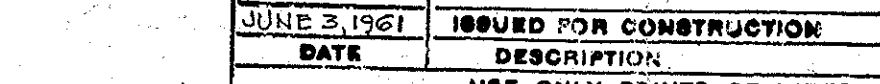
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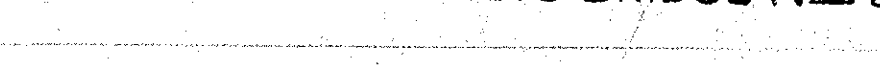
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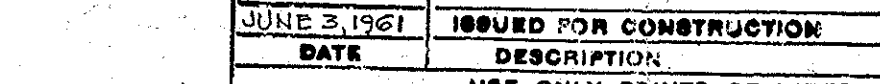
SECTION 5-5
SCALE: 3/4" = 1'-0"



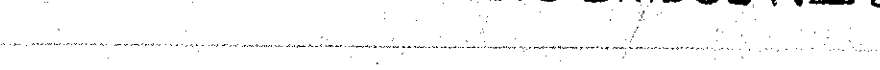
SECTION 5-5
SCALE: 3/4" = 1'-0"



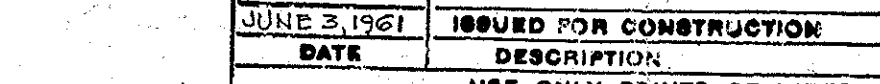
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SCALE: 3/4" = 1'-0"



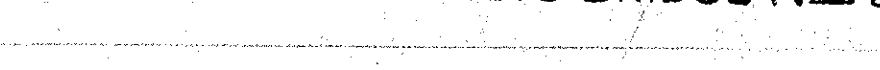
SECTION 5-5
SCALE: 3/4" = 1'-0"



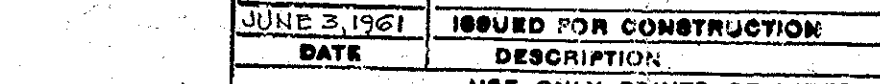
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SCALE: 3/4" = 1'-0"



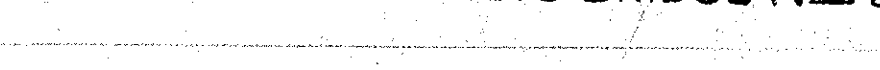
SECTION 5-5
SCALE: 3/4" = 1'-0"



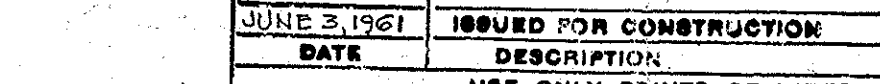
SECTION 5-5
SCALE: 3/4" = 1'-0"



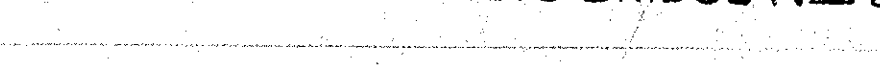
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SCALE: 3/4" = 1'-0"



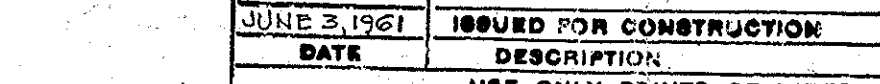
SECTION 5-5
SCALE: 3/4" = 1'-0"



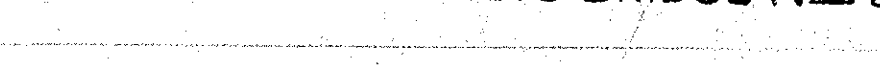
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SCALE: 3/4" = 1'-0"



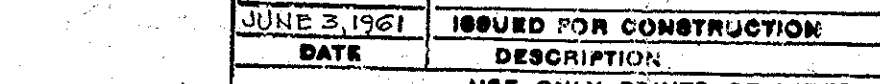
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SCALE: 3/4" = 1'-0"



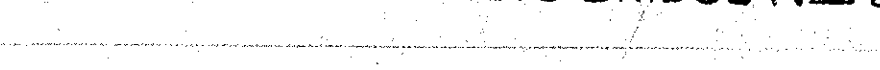
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SCALE: 3/4" = 1'-0"



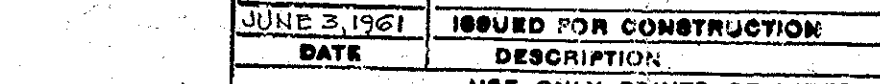
SECTION 5-5
SCALE: 3/4" = 1'-0"



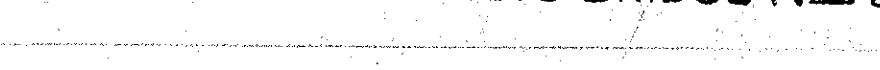
SECTION 5-5
SCALE: 3/4" = 1'-0"



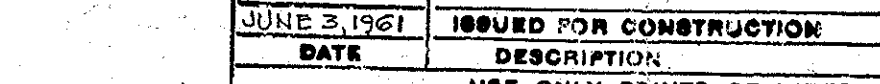
SECTION 5-5
SCALE: 3/4" = 1'-0"



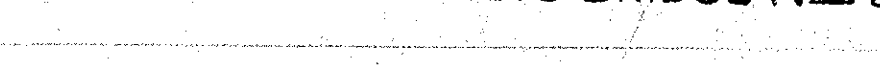
SECTION 5-5
SCALE: 3/4" = 1'-0"



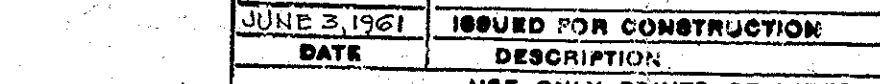
SECTION 5-5
SCALE: 3/4" = 1'-0"



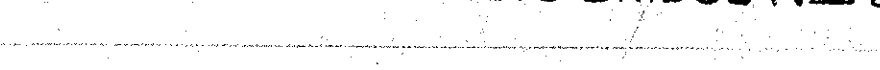
SECTION 5-5
SCALE: 3/4" = 1'-0"



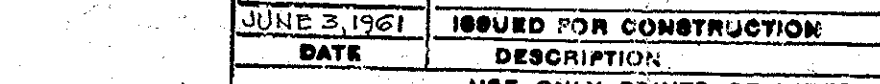
SECTION 5-5
SCALE: 3/4" = 1'-0"



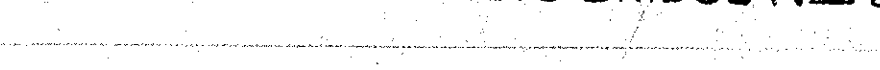
SECTION 5-5
SCALE: 3/4" = 1'-0"



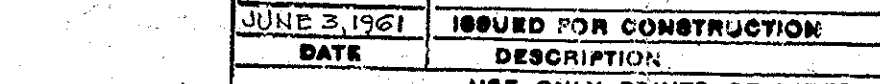
SECTION 5-5
SCALE: 3/4" = 1'-0"



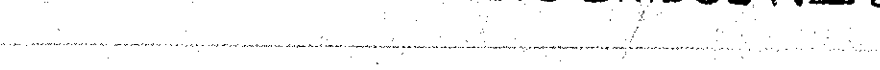
SECTION 5-5
SCALE: 3/4" = 1'-0"



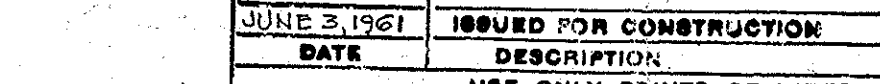
SECTION 5-5
SCALE: 3/4" = 1'-0"



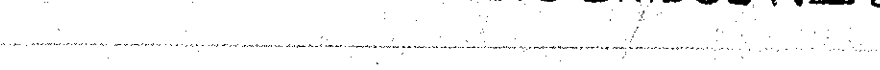
SECTION 5-5
SCALE: 3/4" = 1'-0"



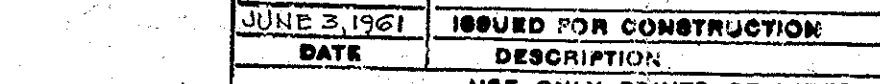
SECTION 5-5
SCALE: 3/4" = 1'-0"



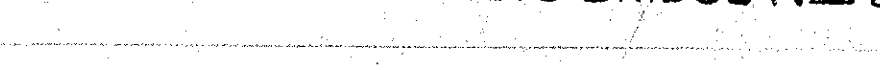
SECTION 5-5
SCALE: 3/4" = 1'-0"



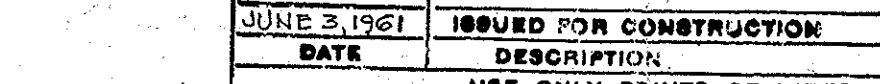
SECTION 5-5
SCALE: 3/4" = 1'-0"



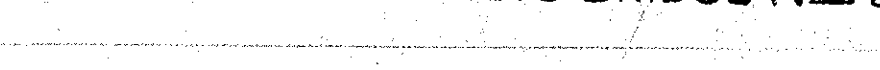
SECTION 5-5
SCALE: 3/4" = 1'-0"



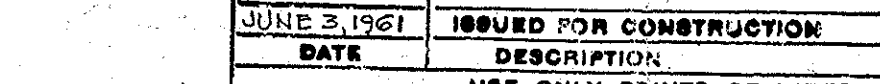
SECTION 5-5
SCALE: 3/4" = 1'-0"



SECTION 5-5
SCALE: 3/4" = 1'-0"



SECTION 5-5
SCALE: 3/4" = 1'-0"



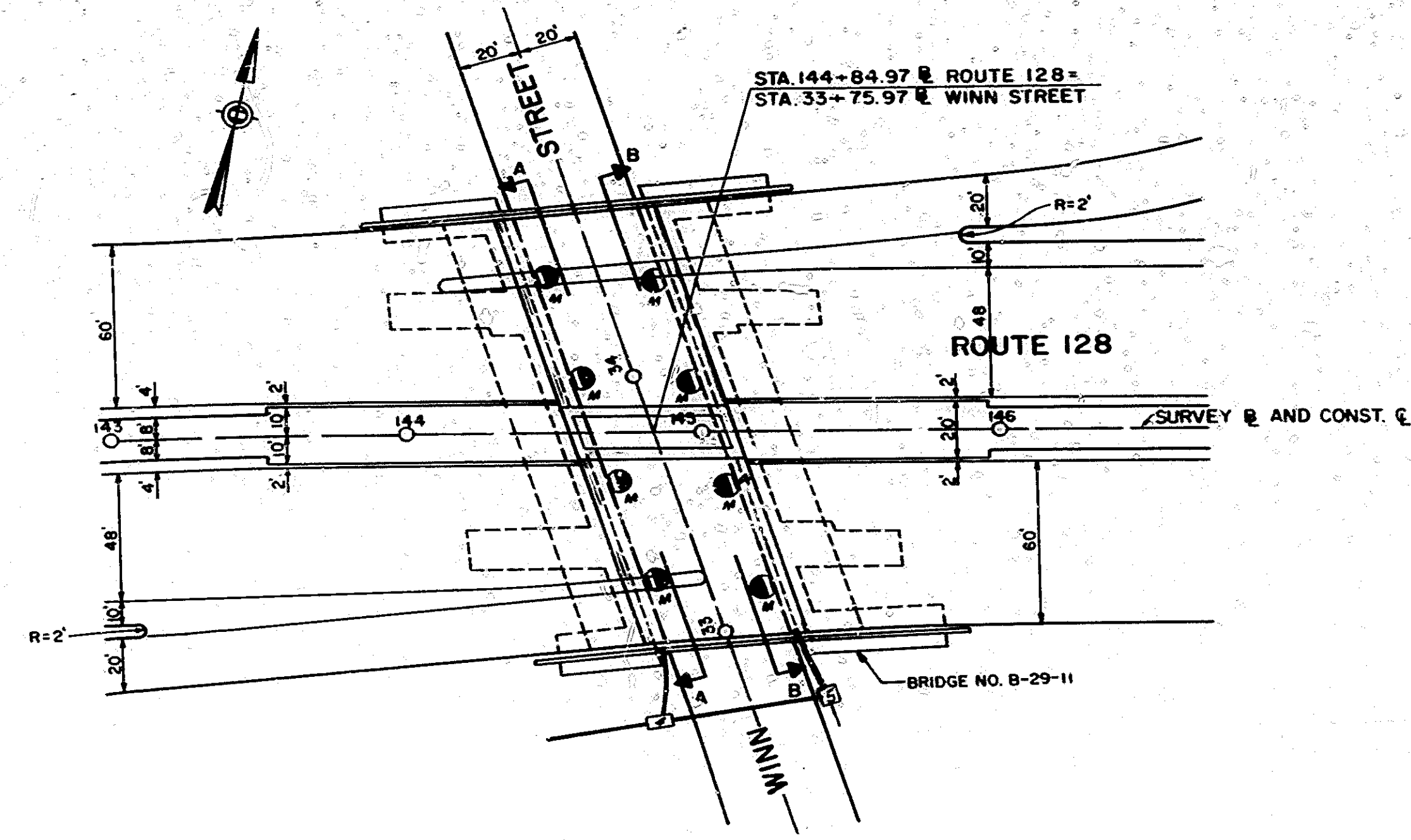
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SCALE: 3/4" = 1'-0"



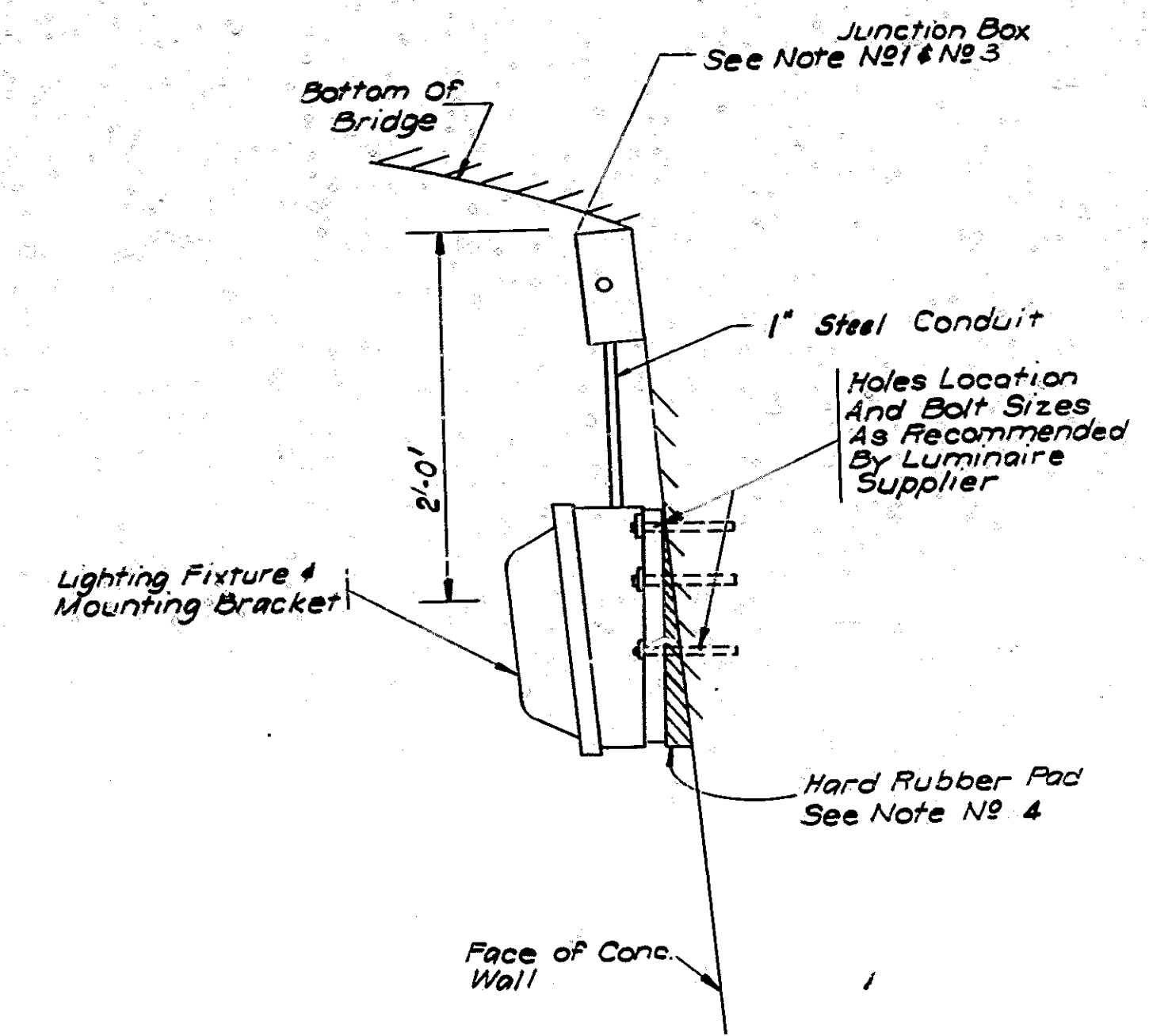
7286

BURLINGTON ROUTE 128					
PUR. RD. DIV. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	MASS	EHS-T-000811	19	64	67

UNDERDECK LIGHTING DETAILS
BRIDGE No. B-29-11

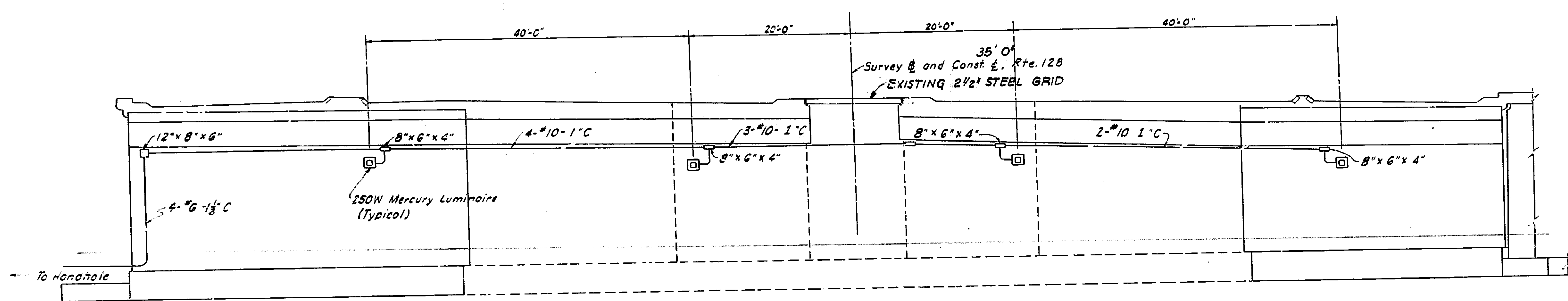


BRIDGE PLAN
ROUTE 128 OVER WINN STREET
SCALE 1" = 40'



MOUNTING DETAIL
SCALE: 1 1/2" = 1'-0"

- NOTES:
1. JUNCTION BOX ADJACENT TO LUMINAIRE TO BE HOT DIPPED GALVANIZED CAST IRON WITH GASKET, BOSSES AND MOUNTING LUGS AS REQUIRED.
 2. SEE SHEET NO. 17 FOR JUNCTION BOXES AND CONDUIT DETAILS.
 3. JUNCTION BOX SHALL BE FASTENED TO CONCRETE WALL WITH 2 UNITS - 3/8" EXPANSION ANCHOR BOLTS.
 4. FIXTURES ON SLOPED WALL SHALL BE MOUNTED WITH NEOPRENE PAD TO SET THE LUMINAIRE MOUNTING BRACKET TO A VERTICAL POSITION.



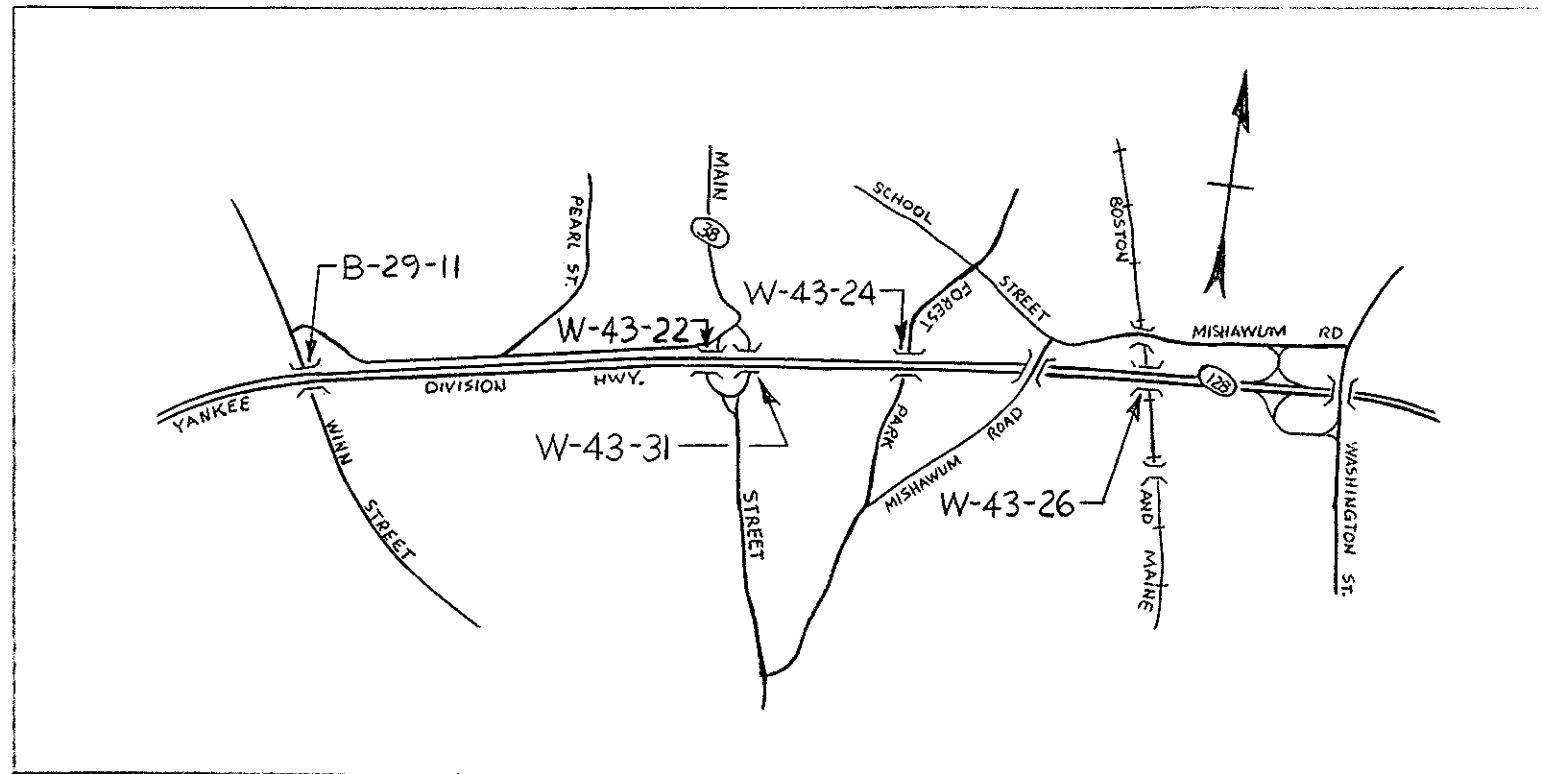
SECTION "A-A" (Scale: 1/8" = 1'-0")
SECTION "B-B" (Opposite)

PUB. RD. DIV. NO.	STATE	FEDERAL AID PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	MASS.	EPS-U272(81)		143	482

± GENERAL NOTES ±

REINFORCEMENT:
UNLESS OTHERWISE SHOWN ON THE PLANS, REINFORCING BARS SHALL BE LAPPED 24 DIAMETERS TO MAKE A SPLICE, EXCEPT THAT MAIN REINFORCING BARS NEAR THE TOP OF SLABS AND BEAMS HAVING MORE THAN 12 INCHES OF CONCRETE UNDER THE BARS SHALL BE LAPPED 35 DIAMETERS TO MAKE A SPLICE.

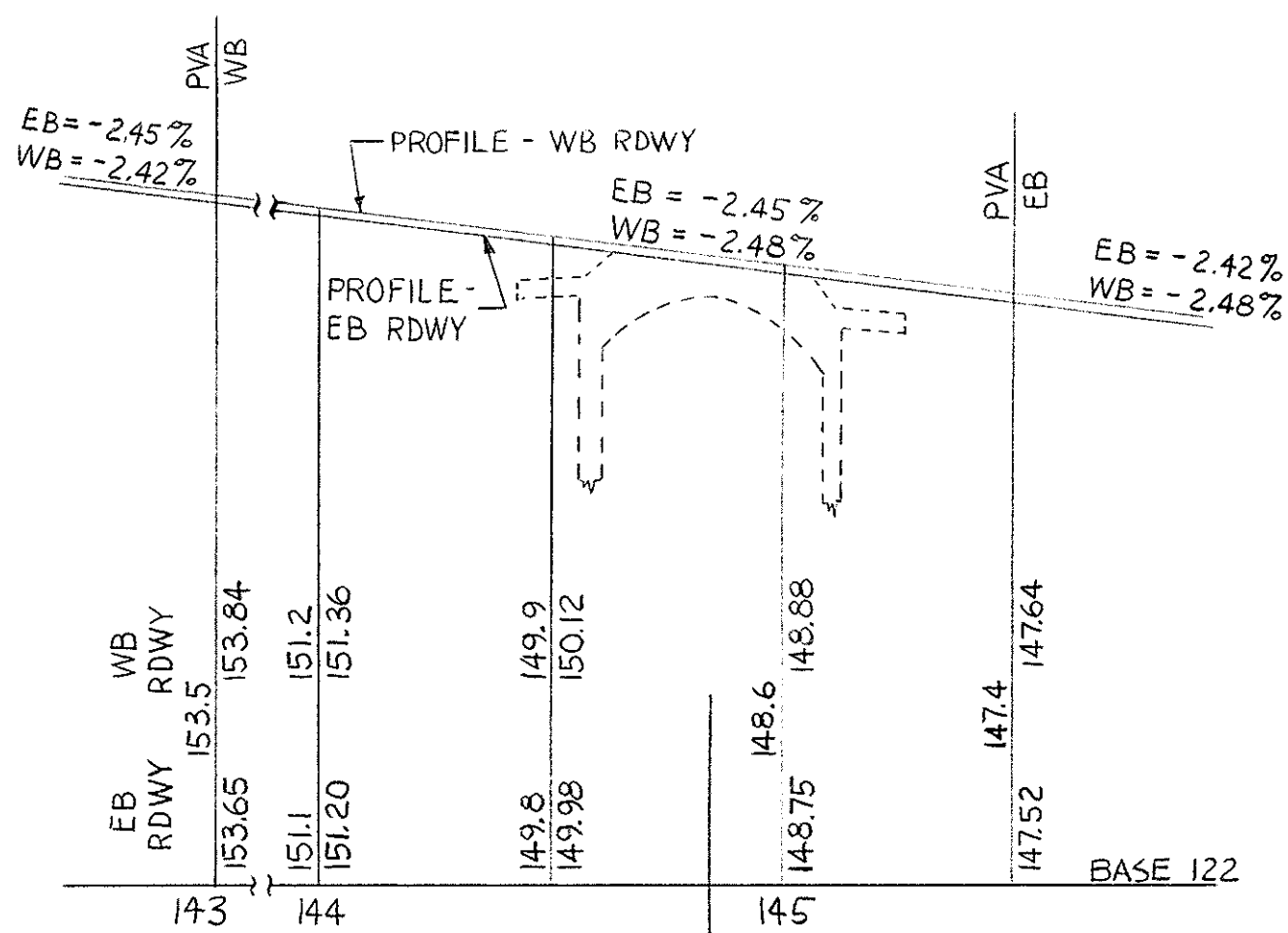
DESIGN:
PLANS FOR ORIGINAL CONSTRUCTION ON FILE AT RM. 610 DEPT. OF PUBLIC WORKS, 100 NASHUA ST. BOSTON, MASS.



LOCUS

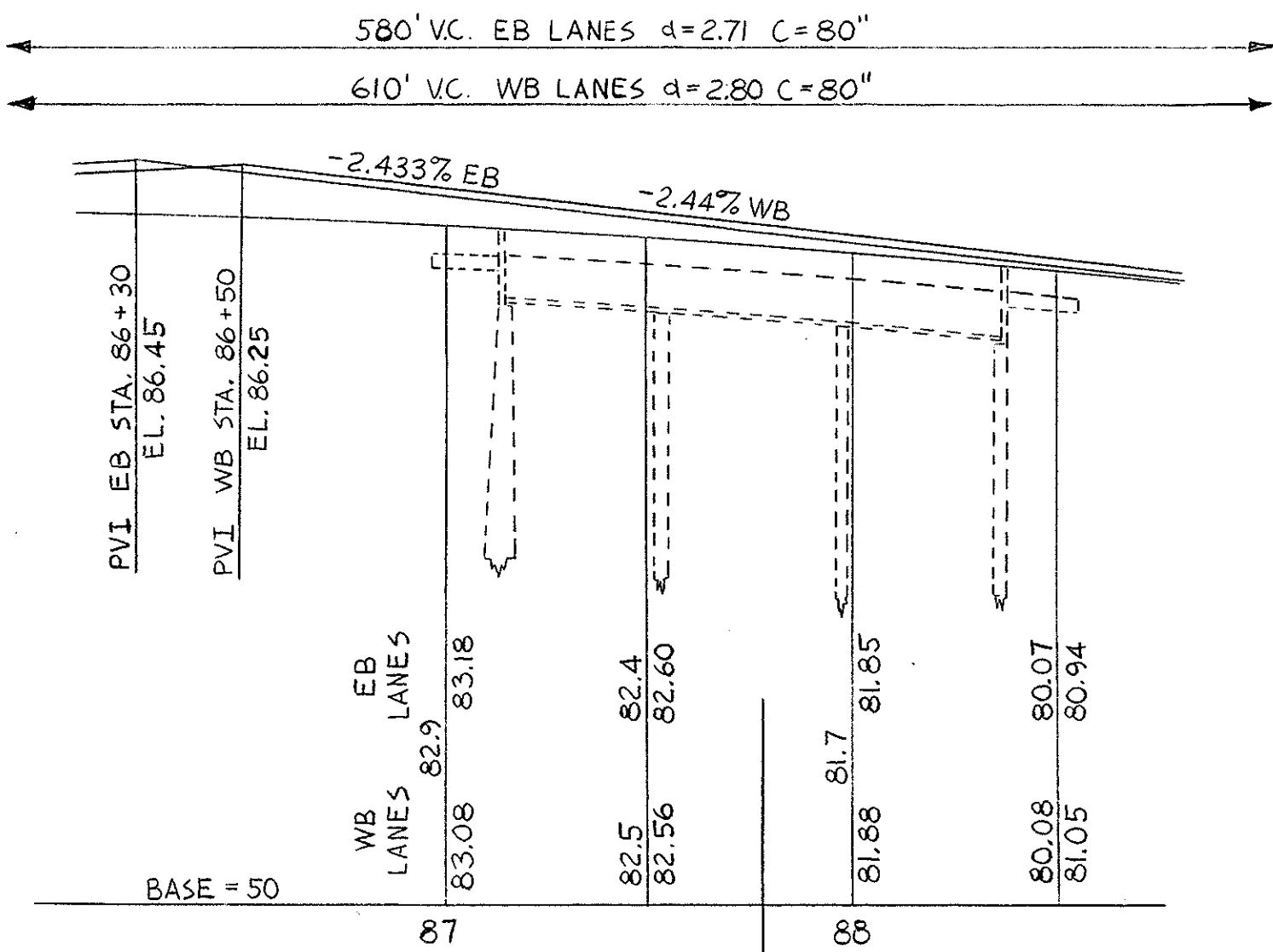
ESTIMATED QUANTITIES (NOT GUARANTEED)

ELASTOMERIC EXPANSION JOINT	245 LF
BLEEDERS FOR BRIDGE DECKS (PVC)	4 EA
REINFORCED CONCRETE EXCAVATION	144 CY
BRIDGE EXCAVATION	1,415 CY
CLASS A TRENCH EXCAVATION	270 CY
CLASS B ROCK EXCAVATION	12 CY
GRAVEL BORROW	115 CY
CRUSHED STONE FOR BASE COURSE	735 TON
BITUMEN FOR ROADWAY BASE COURSE	285 GAL
CLASS I BITUMINOUS CONCRETE PAVEMENT, TYPE I-1	1015 TON
CLASS I DENSE PROTECTIVE BOTTOM COURSE FOR BRIDGES	240 TON
GRANITE RUBBLE BLOCK PAVEMENT	60 SY
EDGING REMOVED AND RESET	255 LF
HIGHWAY GUARD REMOVED AND STACKED	773 LF
CLASS A CEMENT CONCRETE MASONRY	10 CY
CLASS B CEMENT CONCRETE MASONRY	95 CY
CLASS D CEMENT CONCRETE MASONRY	144 CY
CLASS E CEMENT CONCRETE MASONRY	20 CY
STRUCTURAL STEEL	22,150 LB
MEMBRANE WATERPROOFING	7,095 SY
WATERPROOFING PROTECTIVE COURSE	3,385 SY
EPOXY PROTECTIVE COATING	250 SF
BITUMINOUS DAMP-PROOFING	70 SY
BRIDGE MEDIAN GUARD - SINGLE FACE	1,026 LF
STEEL REINFORCEMENT FOR STRUCTURES	33,650 LB



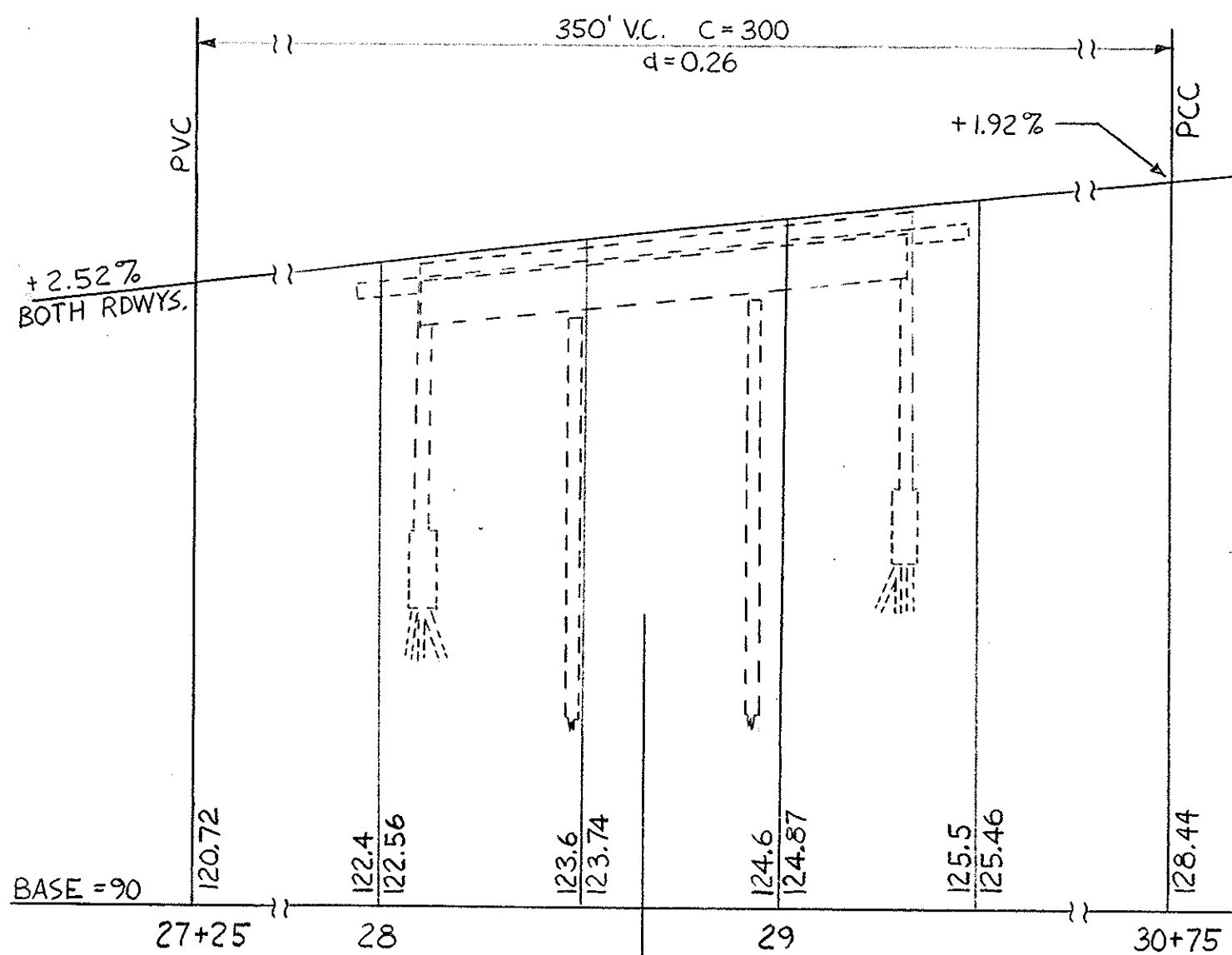
PROFILE RTE. 128 (B-29-11)

SCALES: HOR. 1"=40' VERT. 1"=8'



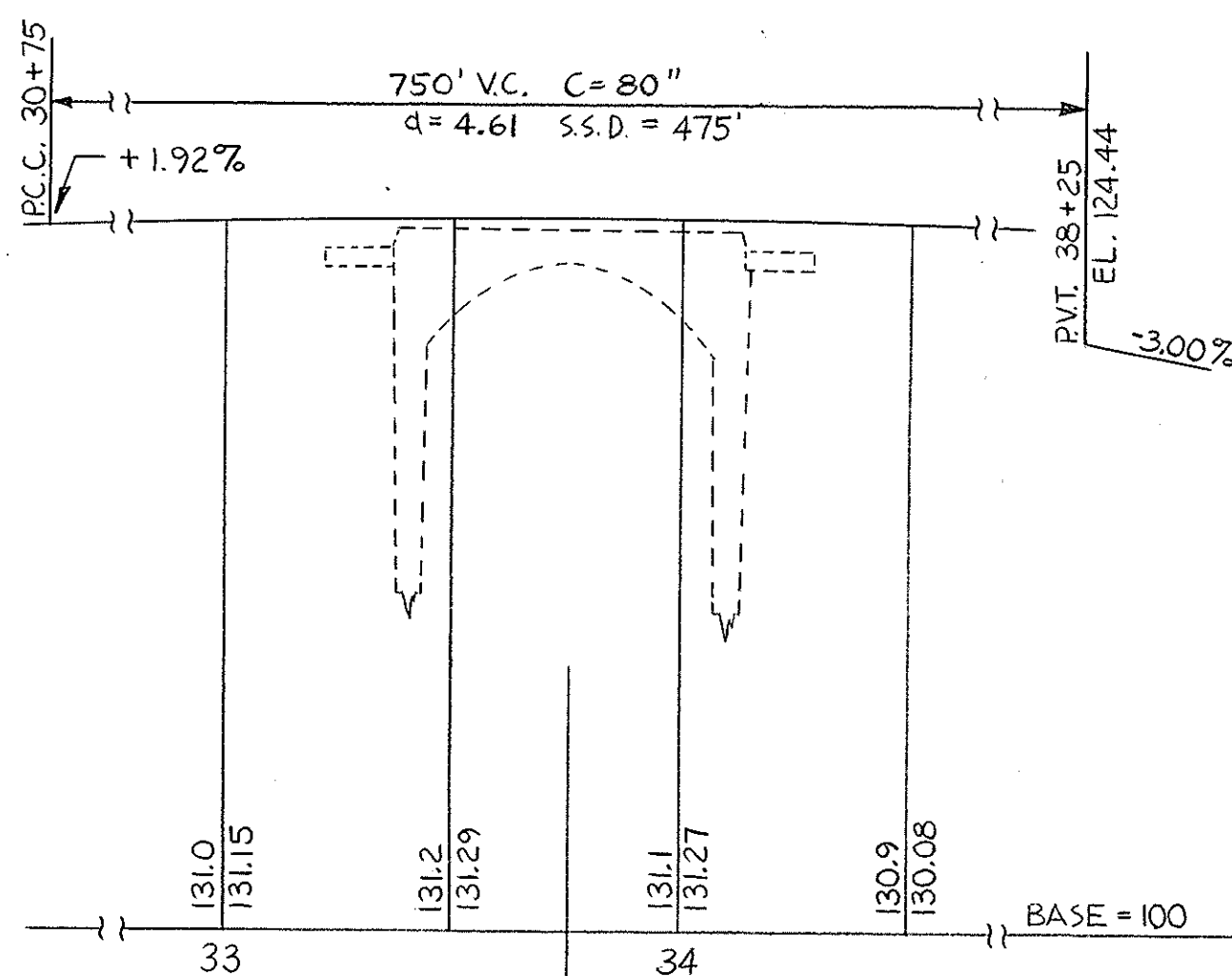
PROFILE RTE. 128 (W-43-26)

SCALES: HOR. 1"=40' VERT. 1"=8'



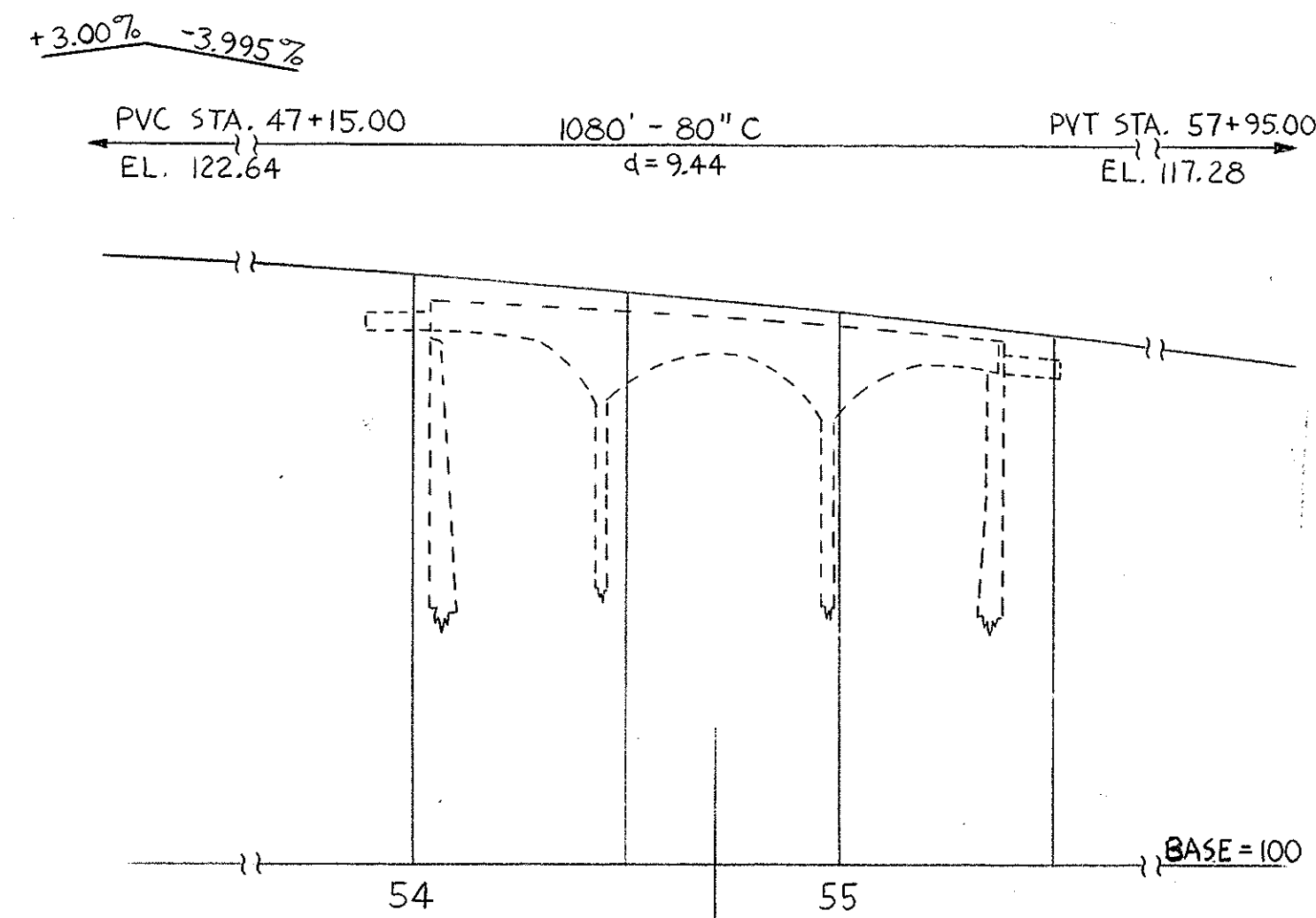
PROFILE RTE. 128 (W-43-22)

SCALES: HOR. 1"=40' VERT. 1"=8'



PROFILE RTE. 128 (W-43-31)

SCALES: HOR. 1"=40' VERT. 1"=8'



PROFILE RTE. 128 (W-43-24)

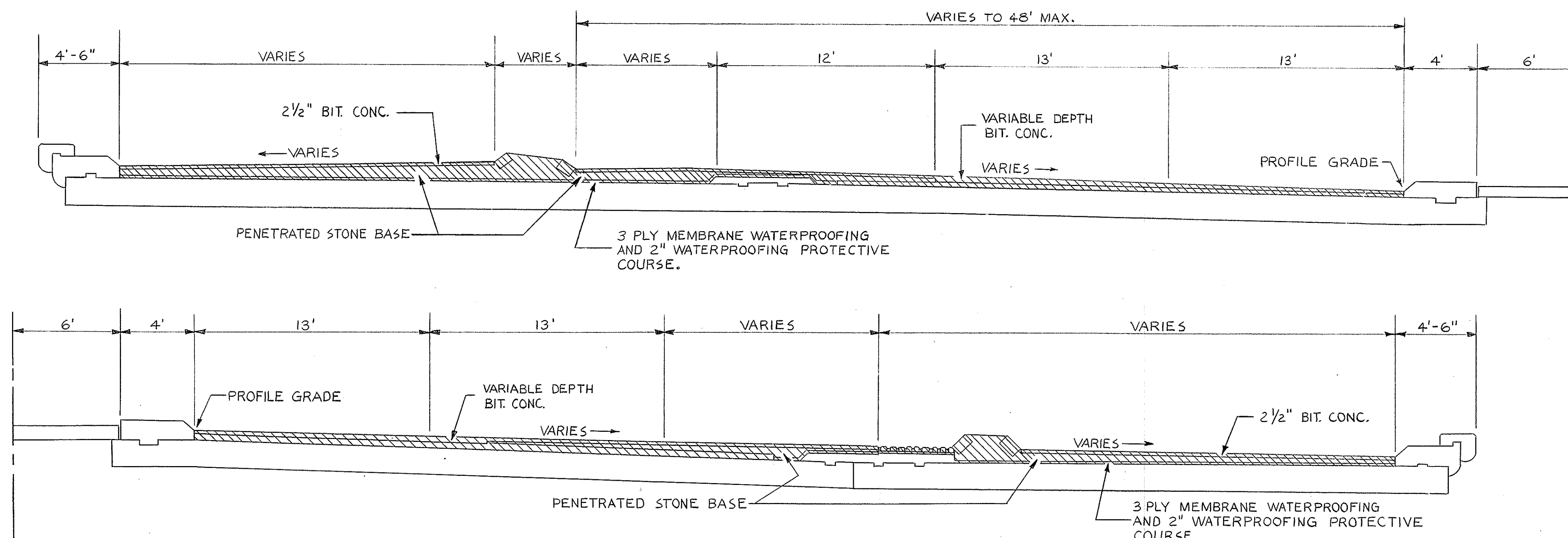
SCALES: HOR. 1"=40' VERT. 1"=8'

DESIGNED BY R. HAXTON	OCT. 30, 1971	ISSUED FOR CONSTRUCTION
DRAWN BY R. HAXTON		
CHECKED BY J. PERNA		
APPROVED FOR DESIGN		
R. HENDRICKSON F. FORTE	THE COMMONWEALTH OF MASSACHUSETTS PROPOSED BRIDGE REPAIRS BURLINGTON-WOBURN RTE. 128 — FIVE GRADE SEPARATIONS SCALES AS NOTED OFFICE OF DEPARTMENT OF PUBLIC WORKS 100 NASHUA ST. BOSTON, MASS. OCT. 1971 <i>John P. Perna</i> BRIDGE ENGINEER <i>Don J. Perna</i> CHIEF ENGINEER	

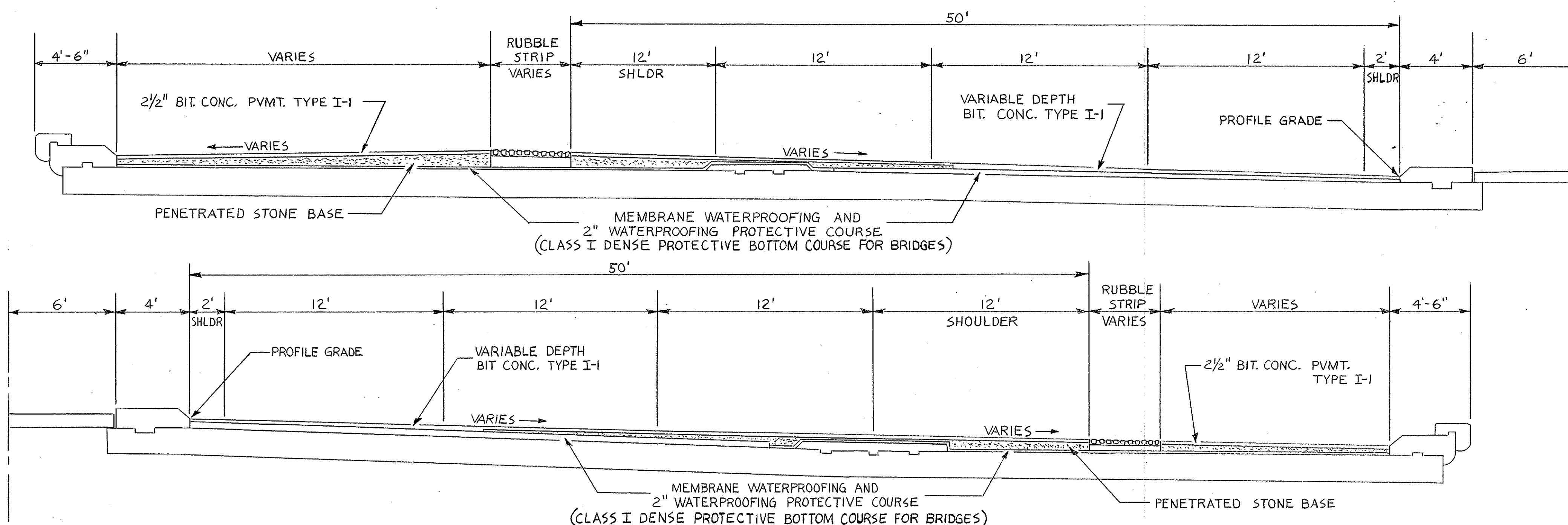
PUB. RD. DIV. NO.	STATE	FEDERAL AID PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	MASS.	EPS U272(6)		144	482

NOTES:

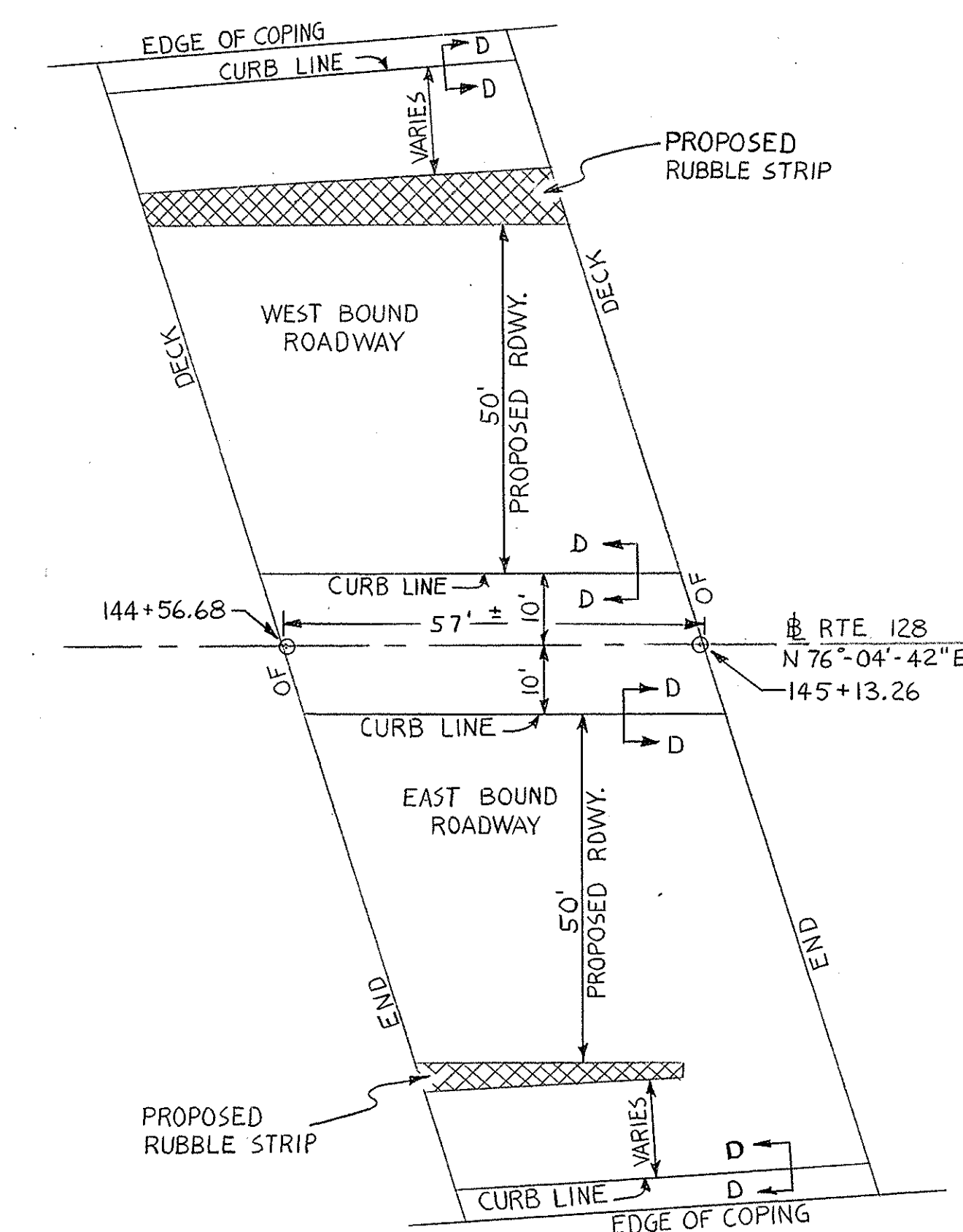
- THE NEW SURFACE SHALL BE CONSTRUCTED AS FOLLOWS:
- MEMBRANE WATERPROOFING AND A 2" WATERPROOFING PROTECTIVE COURSE SHALL BE PLACED ON THE BRIDGE DECK FROM CURB LINE TO CURB LINE ON BOTH EASTBOUND AND WESTBOUND ROADWAYS.
- WITHIN THE AREAS WHERE THE DIFFERENCE IN ELEVATION BETWEEN THE PROPOSED FINISHED ELEVATIONS AND THE TOP OF THE WATERPROOFING PROTECTIVE COURSE DOES NOT EXCEED 4 1/2", THE SURFACE X-SECTION SHALL CONSIST OF A VARIABLE DEPTH BIT. CONC. TYPE I-1 LEVELING COURSE AND A 1/4" CLASS I BIT. CONC. TYPE I-1 TOP COURSE.
- WITHIN THE AREAS WHERE THE DIFFERENCE IN ELEVATION BETWEEN THE PROPOSED FINISHED ELEVATIONS AND THE TOP OF THE WATERPROOFING PROTECTIVE COURSE EXCEEDS 4 1/2", THE SURFACE X-SECTION SHALL CONSIST OF 2 1/2" CLASS I BIT. CONC. TYPE I-1 OVER A VARIABLE DEPTH PENETRATED CRUSHED STONE BASE.
- INDICATES MATERIAL TO BE REMOVED.
- SEE SHEET #9 FOR SECTION AT RUBBLE STRIP.
- FINISHED ROADWAY ELEVATIONS AT CUBINGS AND EDGES OF RUBBLE STRIP ARE POSTED ON HIGHWAY CONSTRUCTION DRAWINGS.
- SEE SHEET #7 SECTION D-D.
- ANY AREAS IN THE MAIN DECK REQUIRING CONCRETE REPAIRS SHALL BE REPLACED WITH CLASS E CEMENT CONCRETE MASONRY AS SPECIFIED IN THE SPECIAL PROVISIONS.



EXISTING BRIDGE CROSS SECTION
NO SCALE



PROPOSED BRIDGE CROSS SECTION
NO SCALE



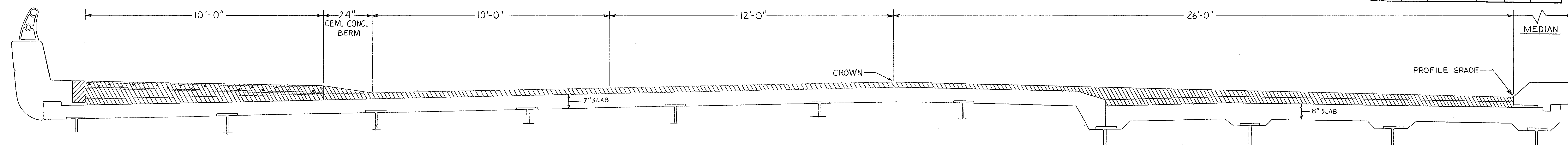
PLAN
SCALE 1"=20'-0"

BR. NO. B-29-II

OCT. 30, 1971	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION
USE ONLY PRINTS OF LATEST DATE	

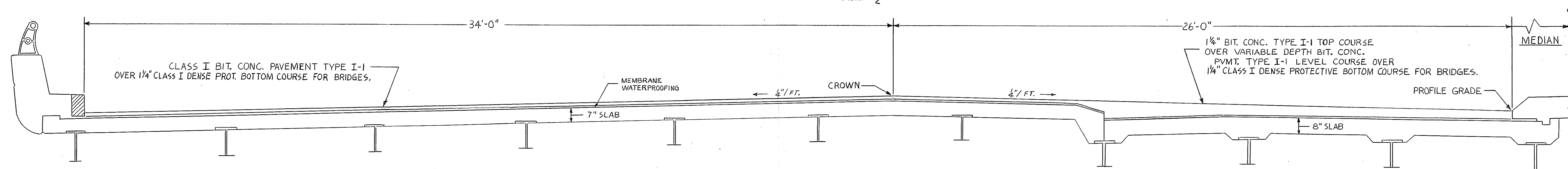
SHEET 2 OF 11 SHEETS BRIDGE NOS. B-29-II, B-29-WI, W-43-22, 24, 26, 31

PUB. RD. DIV. NO.	STATE	FEDERAL AID PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	MASS.	EPS 0272 (B)		145	482



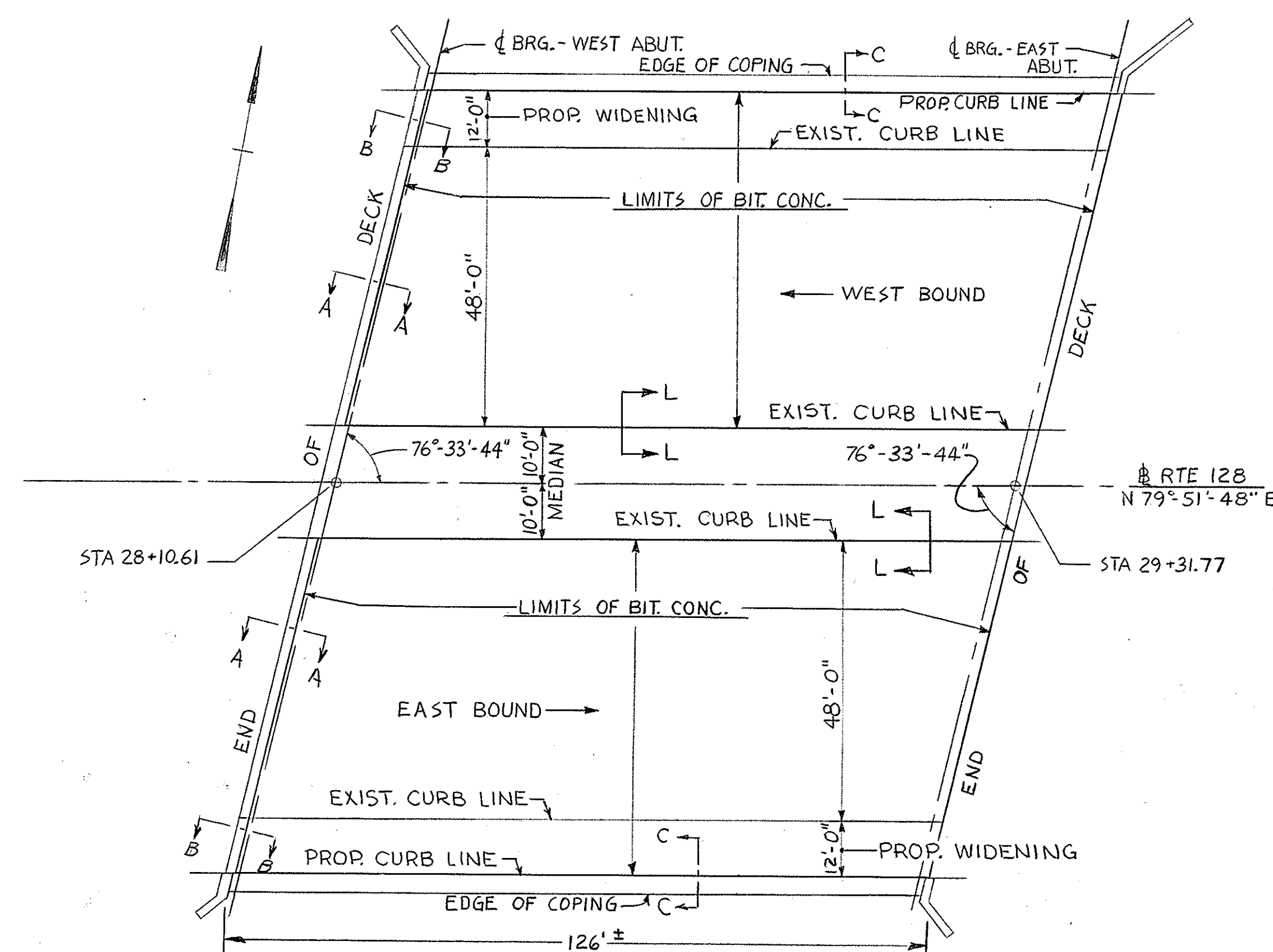
EXISTING TYPICAL BRIDGE SQUARE HALF SECTION

SCALE: $\frac{1}{2}'' = 1'-0''$



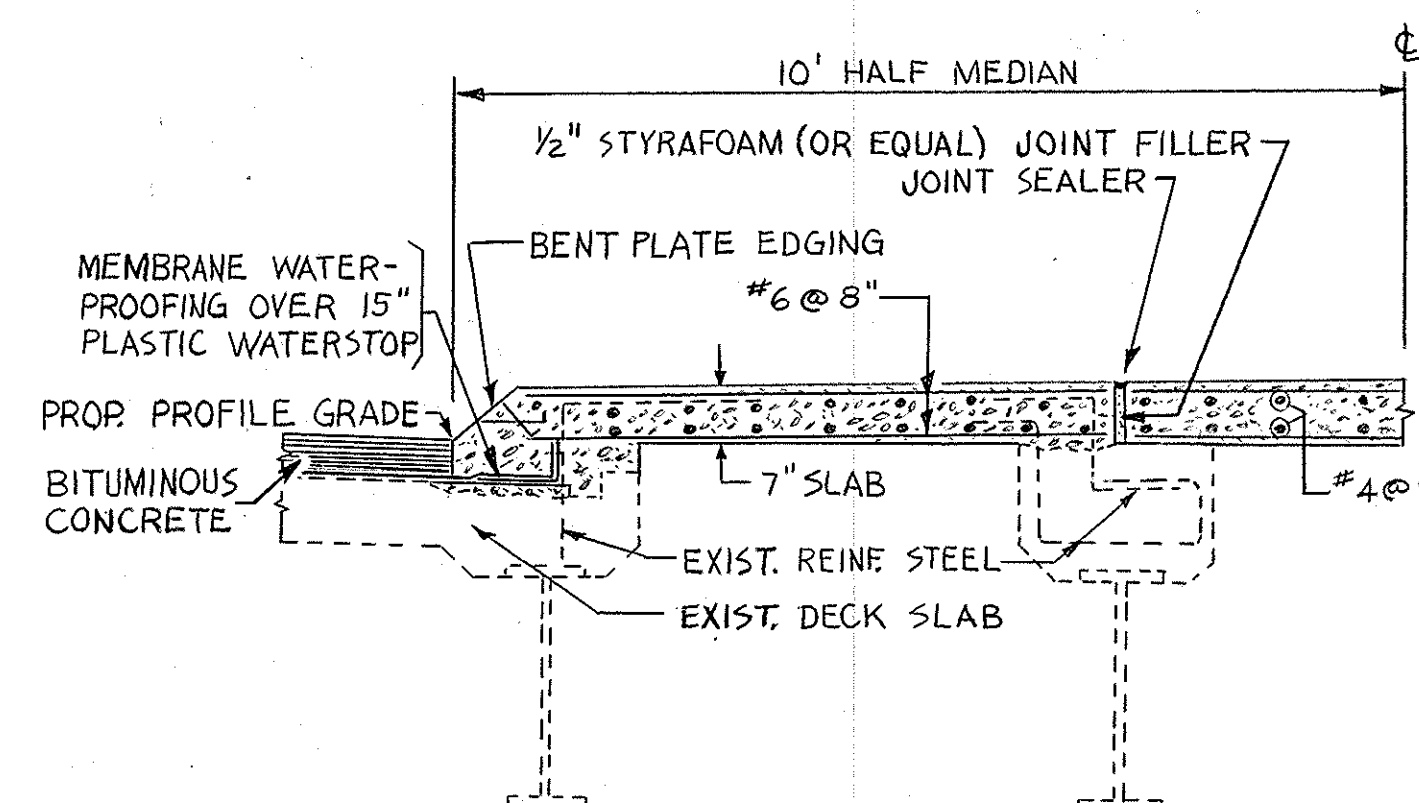
PROPOSED TYPICAL BRIDGE SQUARE HALF SECTION

SCALE: $\frac{1}{2}'' = 1'-0''$



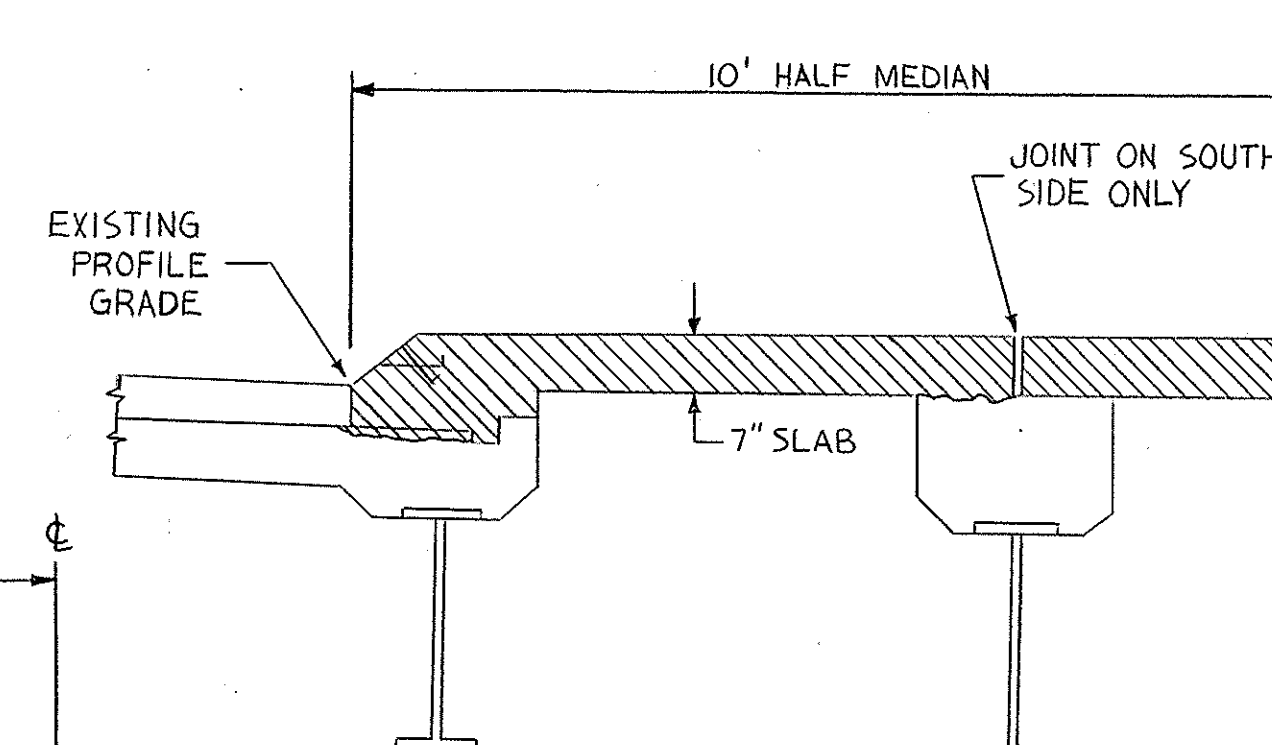
PLAN

SCALE: $1'' = 20'-0''$



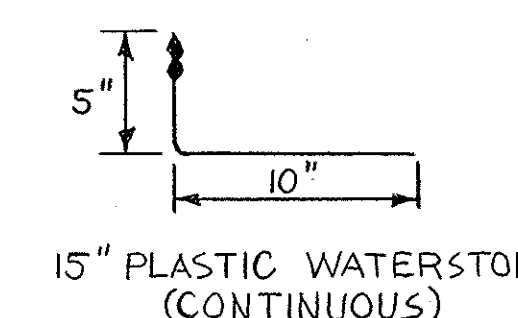
PROPOSED SECTION L-L

NOT TO SCALE



EXISTING SECTION L-L

NOT TO SCALE



NOTES:

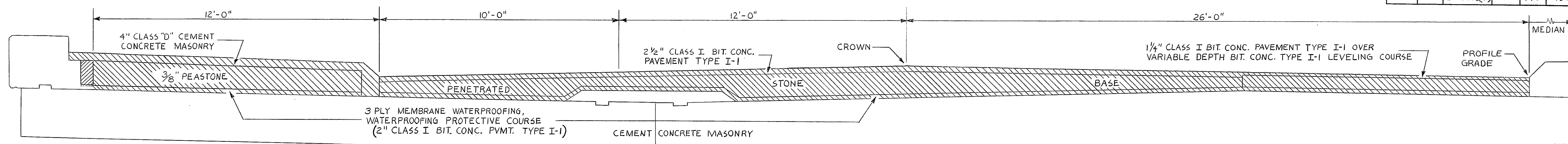
1. INDICATES MATERIAL TO BE REMOVED.
2. SEE SHEET #7 FOR SECTIONS A-A; B-B; & C-C.
3. DURING RECONSTRUCTION OF THE MEDIAN, REPLACE ALL EXCAVATED CEMENT CONCRETE WITH CLASS D CEMENT CONCRETE MASONRY.
4. FASTEN TOP OF 15" PLASTIC WATERSTOP AND MEMBRANE WATERPROOFING TO VERTICAL REINF. WITH CLIPS OR #16 WIRE.
5. ANY AREAS IN THE MAIN DECK REQUIRING CONCRETE REPAIRS SHALL BE REPLACED WITH CLASS E CEMENT CONCRETE MASONRY AS SPECIFIED IN THE SPECIAL PROVISIONS.
6. ALL WORK SYMMETRICAL ABOUT C.

BR. NO. W-43-22

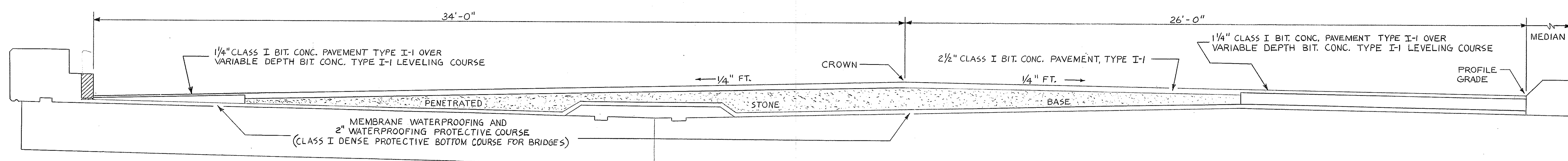
OCT. 30, 1971	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION
USE ONLY PRINTS OF LATEST DATE	

SHEET 3 OF 11 SHEETS BRIDGE NOS. W-43-22, 24, 26, 31

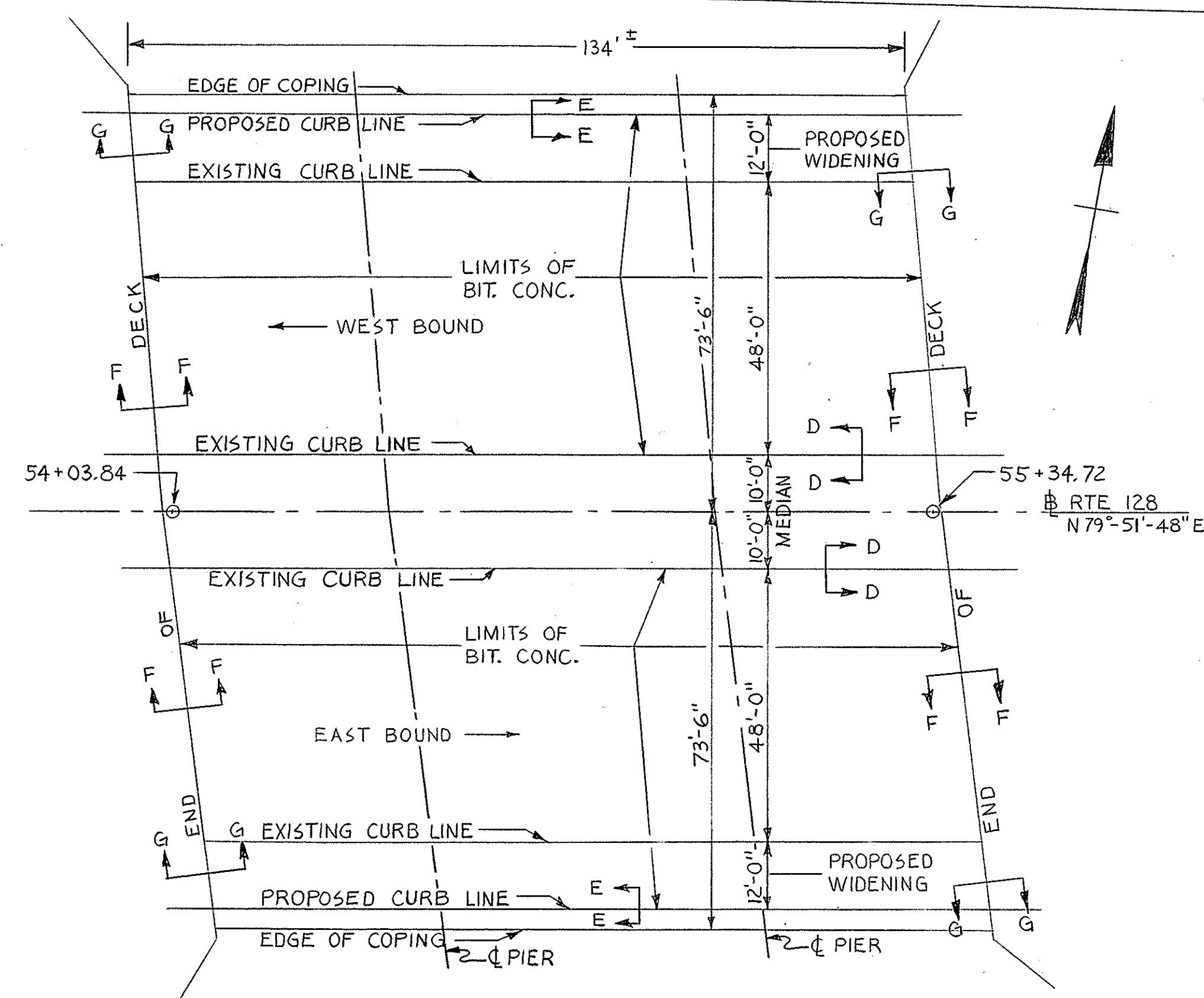
PUB. RD. DIV. NO.	STATE	FEDERAL AID PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	MASS.	EPS U272(8)		146	482



EXISTING TYPICAL BRIDGE SQUARE HALF SECTION
NOT TO SCALE



PROPOSED TYPICAL BRIDGE SQUARE HALF SECTION
NOT TO SCALE



PLAN
SCALE = 1" = 20'-0"

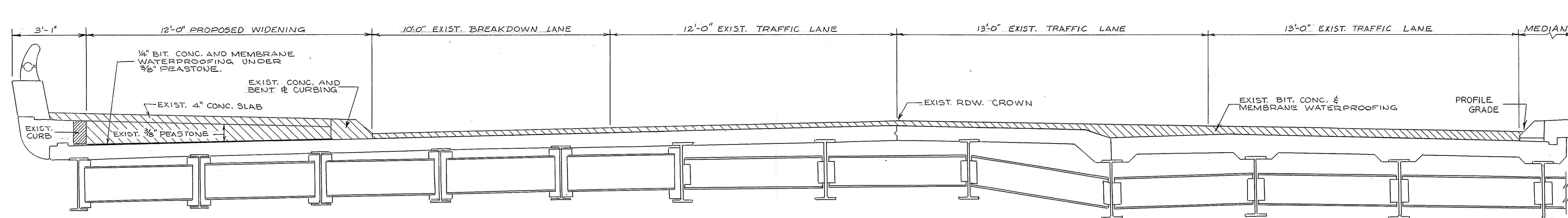
NOTES:

- THE NEW SURFACE SHALL BE CONSTRUCTED AS FOLLOWS:
- MEMBRANE WATERPROOFING AND A 2" WATERPROOFING PROTECTIVE COURSE SHALL BE PLACED ON THE BRIDGE DECK FROM CURB LINE TO CURB LINE ON BOTH EASTBOUND AND WESTBOUND ROADWAYS.
- WITHIN THE AREAS WHERE THE DIFFERENCE IN ELEVATION BETWEEN THE PROPOSED FINISHED ELEVATIONS AND THE TOP OF THE WATERPROOFING PROTECTIVE COURSE DOES NOT EXCEED 4 1/2", THE SURFACE X-SECTION SHALL CONSIST OF A VARIABLE DEPTH BIT. CONC. TYPE I-1 LEVELING COURSE AND A 1 1/4" CLASS I BIT. CONC. TYPE I-1 TOP COURSE.
- WITHIN THE AREAS WHERE THE DIFFERENCE IN ELEVATION BETWEEN THE PROPOSED FINISHED ELEVATIONS AND THE TOP OF THE WATERPROOFING PROTECTIVE COURSE EXCEEDS 4 1/2", THE SURFACE X-SECTION SHALL CONSIST OF 2 1/2" CLASS I BIT. CONC. TYPE I-1 OVER A VARIABLE DEPTH PENETRATED CRUSHED STONE BASE.
- INDICATES MATERIAL TO BE REMOVED.
- SEE SHEET #7 FOR SECTIONS D-D & E-E.
- SEE SHEET #8 FOR SECTIONS F-F & G-G.
- ANY AREAS IN THE MAIN DECK REQUIRING CONCRETE REPAIRS SHALL BE REPLACED WITH CLASS E CEMENT CONCRETE MASONRY AS SPECIFIED IN THE SPECIAL PROVISIONS.

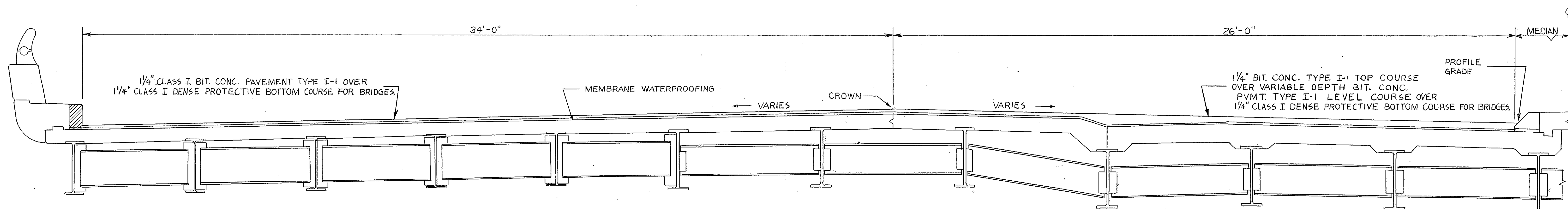
BR. NO. W-43-24

OCT. 30, 1971	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION
USE ONLY PRINTS OF LATEST DATE	

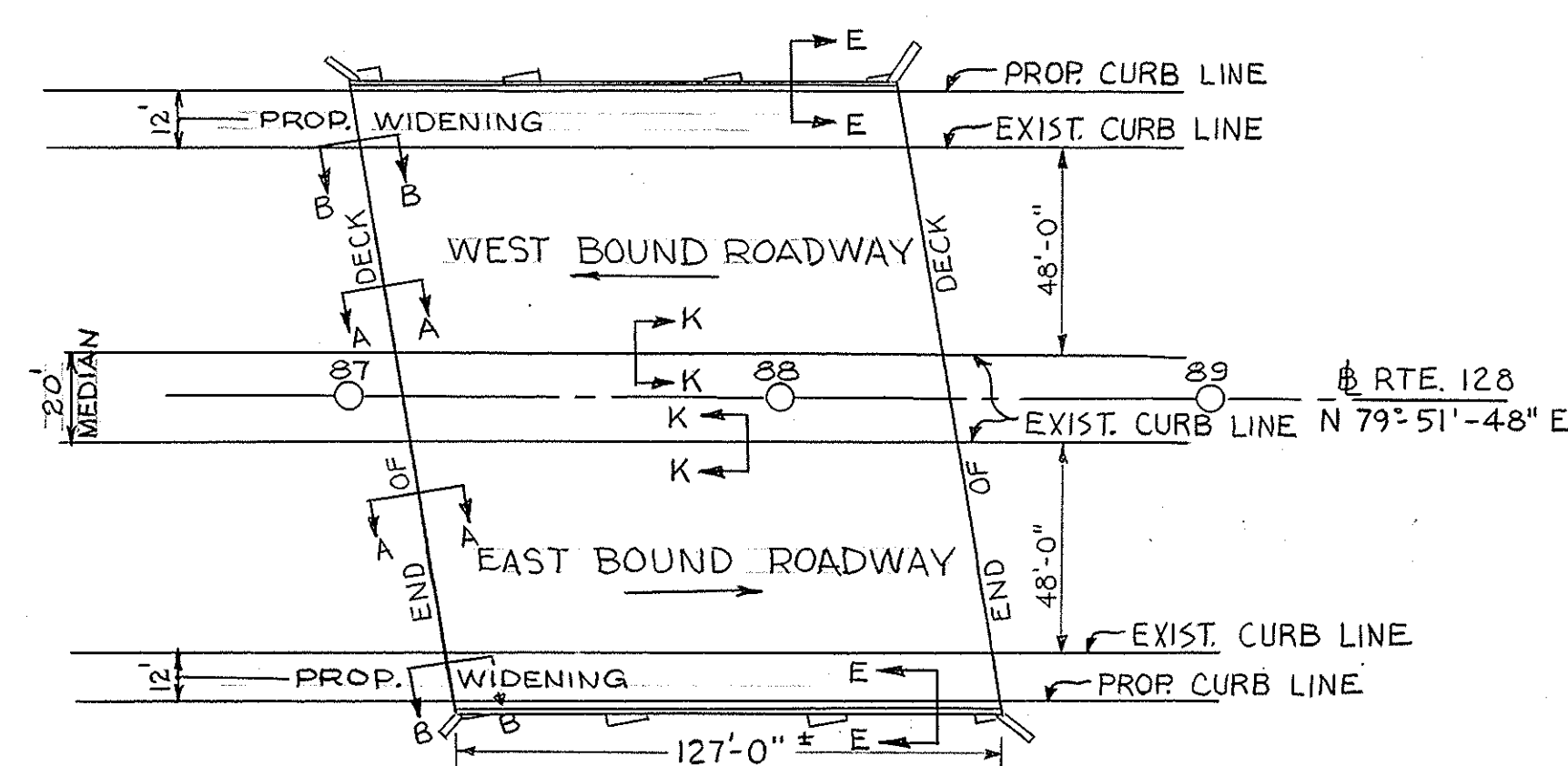
SHEET 4 OF 11 SHEETS BRIDGE NOS. 8-29-11, 8-29-W1, W-43-22, 24, -26, 31



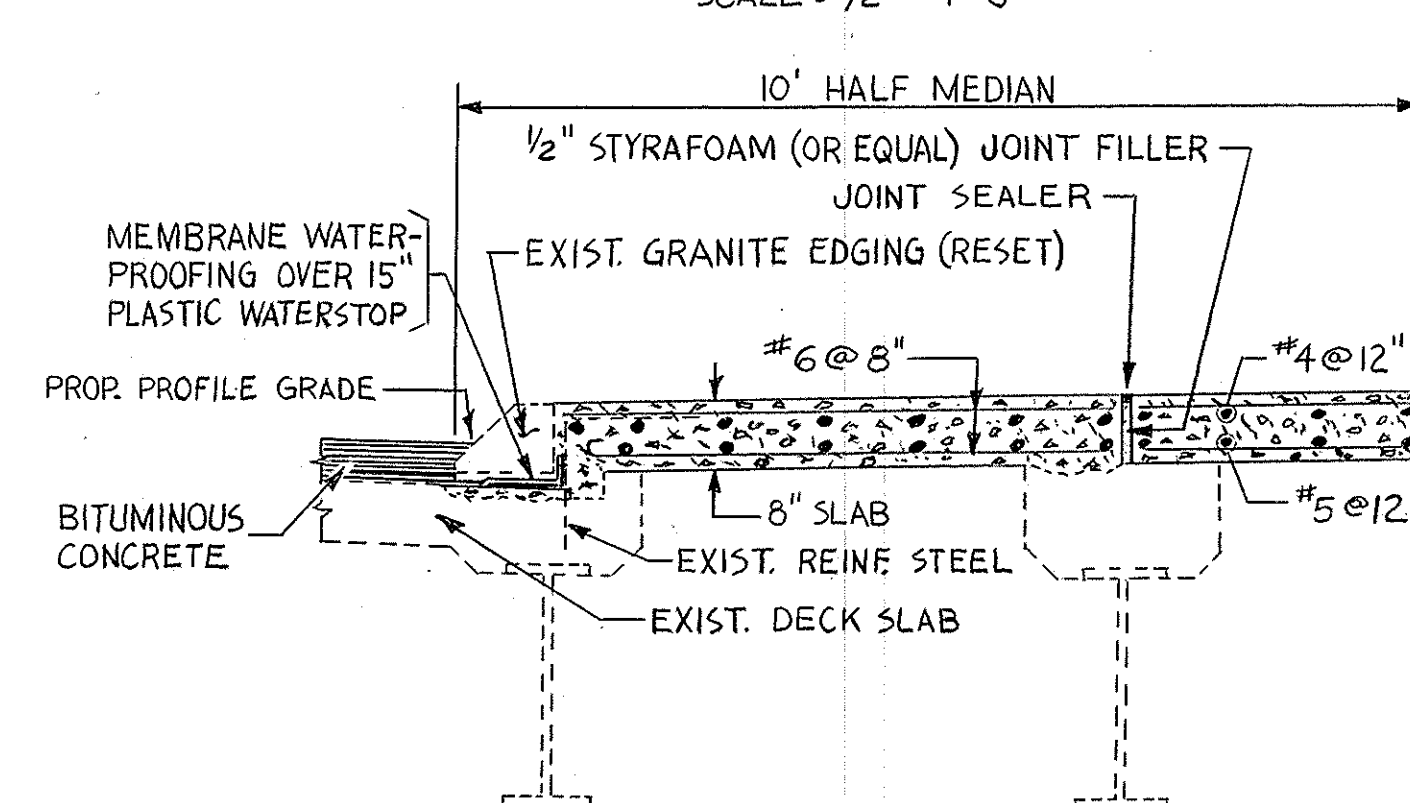
EXISTING TYPICAL BRIDGE SQUARE HALF SECTION
SCALE: $\frac{1}{2}'' = 1'-0''$



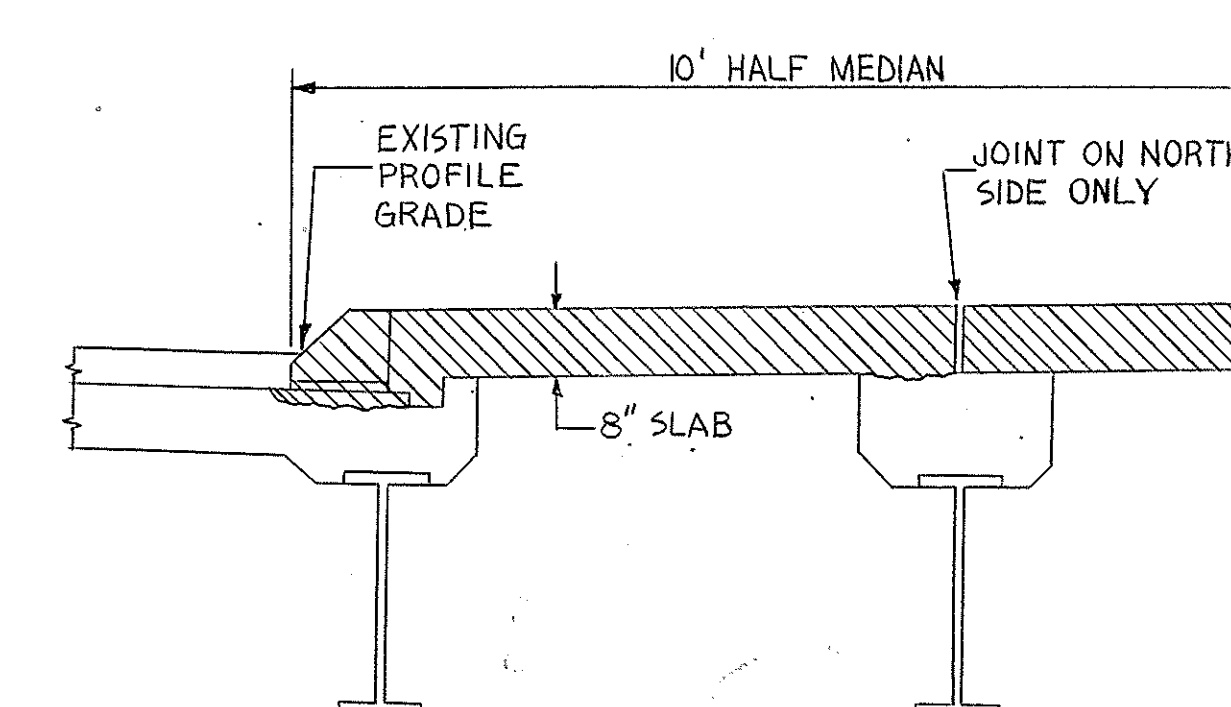
PROPOSED TYPICAL BRIDGE SQUARE HALF SECTION
SCALE: $\frac{1}{2}'' = 1'-0''$



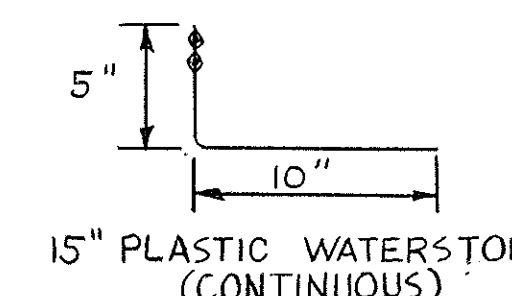
KEY PLAN
SCALE: $1'' = 40'-0''$



PROPOSED SECTION K-K
NOT TO SCALE

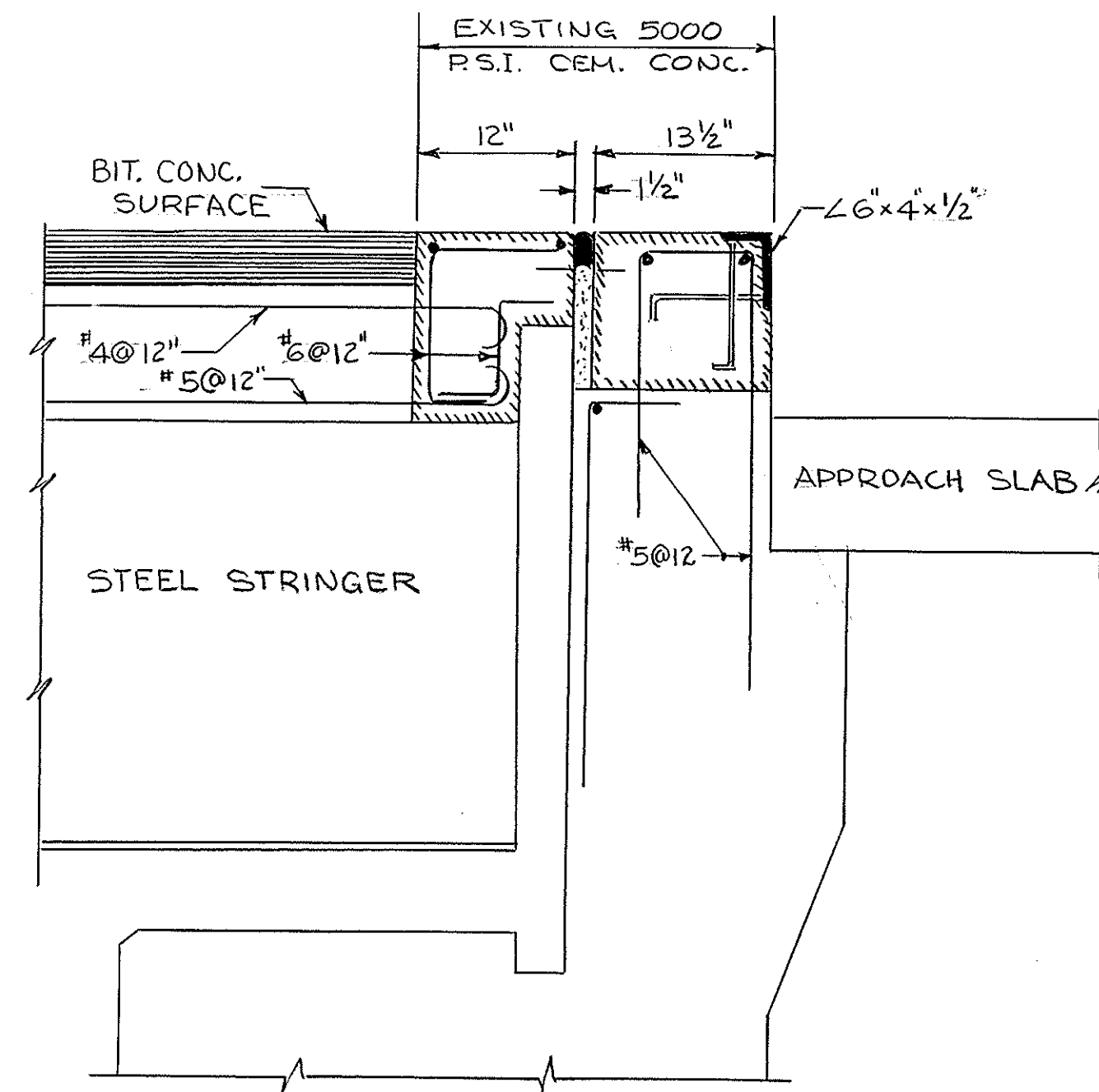


EXISTING SECTION K-K
NOT TO SCALE

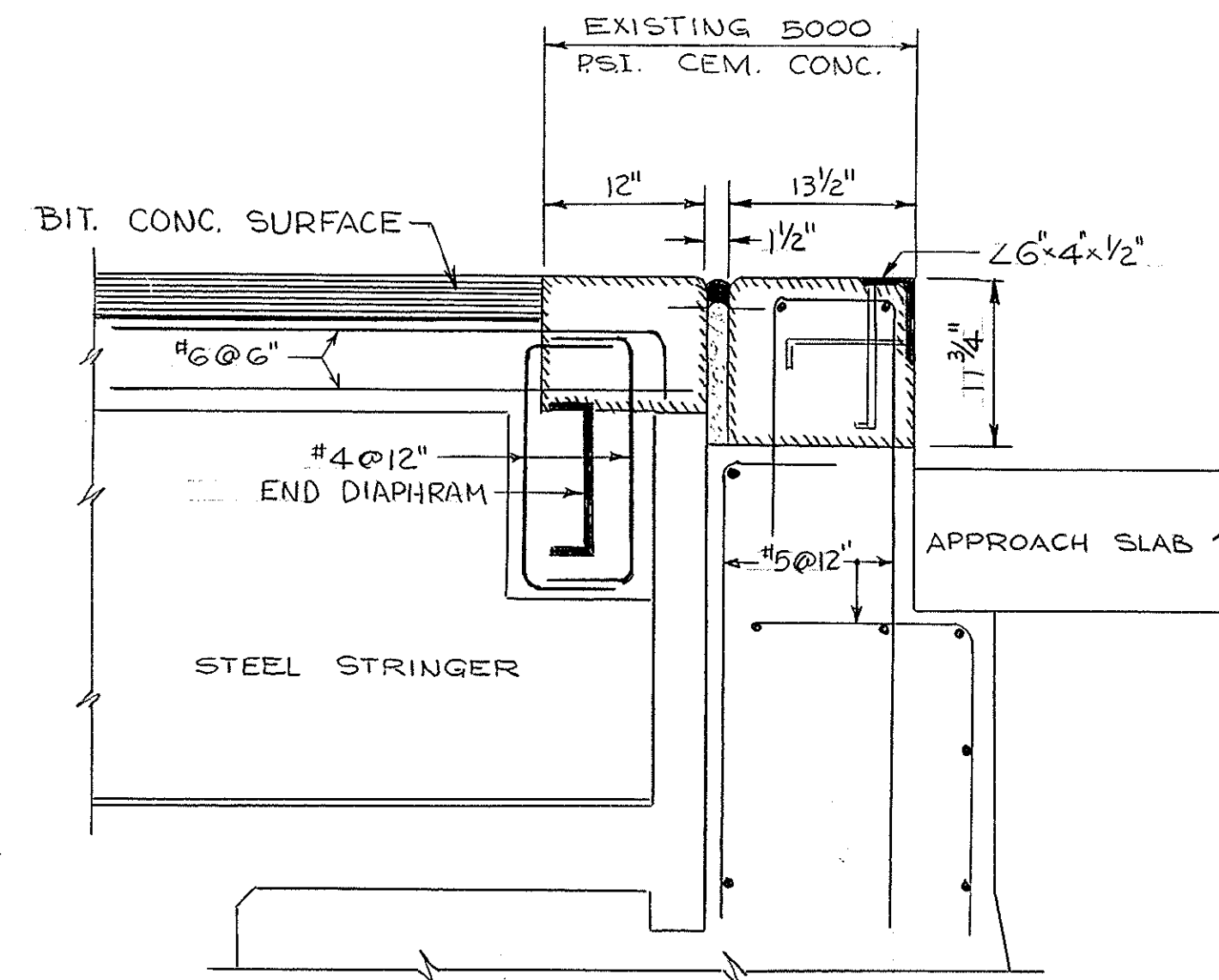


- NOTES:
1. Hatched areas indicate material to be removed.
 2. FINISHED ROADWAY ELEVATIONS AT CURBINGS AND CROWN ARE POSTED ON HIGHWAY CONSTRUCTION DRAWINGS.
 3. SEE SHEET #7 FOR SECTIONS A-A; B-B & E-E.
 4. DURING RECONSTRUCTION OF THE MEDIAN, REPLACE ALL EXCAVATED CEMENT CONCRETE WITH CLASS D CEMENT CONCRETE MASONRY.
 5. FASTEN TOP OF 15" PLASTIC WATERSTOP AND MEMBRANE WATERPROOFING TO VERTICAL REINF. WITH CLIPS OR #16 WIRE.
 6. ANY AREAS IN THE MAIN DECK REQUIRING CONCRETE REPAIRS SHALL BE REPLACED WITH CLASS E CEMENT CONCRETE MASONRY AS SPECIFIED IN THE SPECIAL PROVISIONS.
 7. ALL WORK SYMMETRICAL ABOUT C.

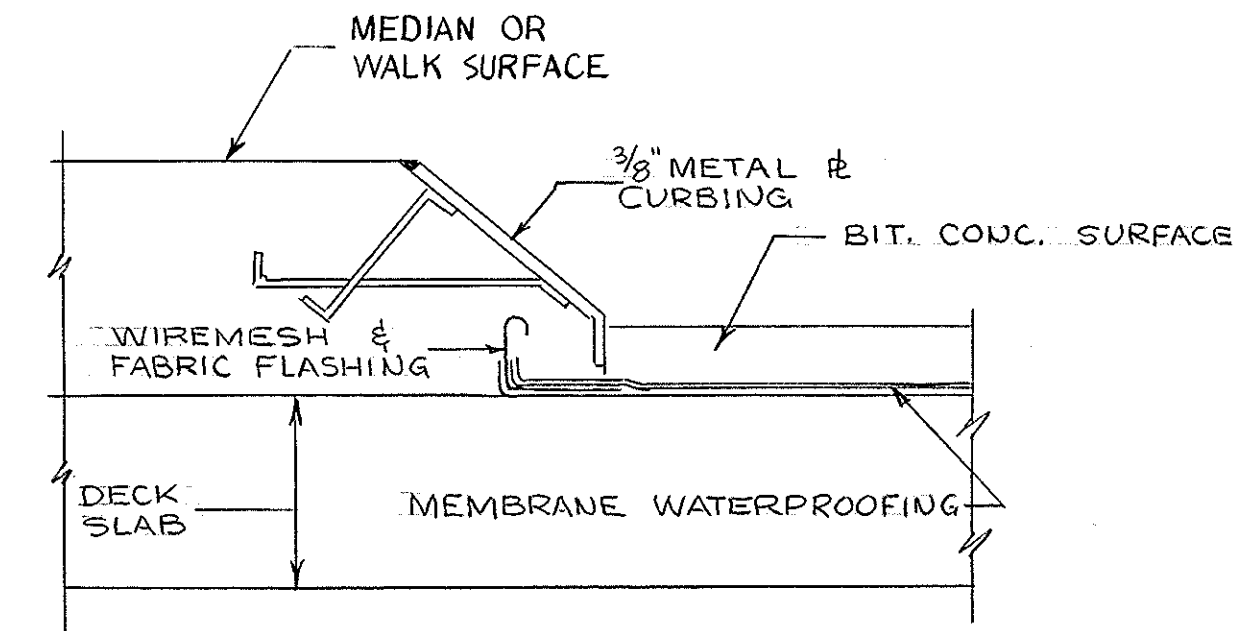
OCT. 30, 1971	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION
USE ONLY PRINTS OF LATEST DATE	



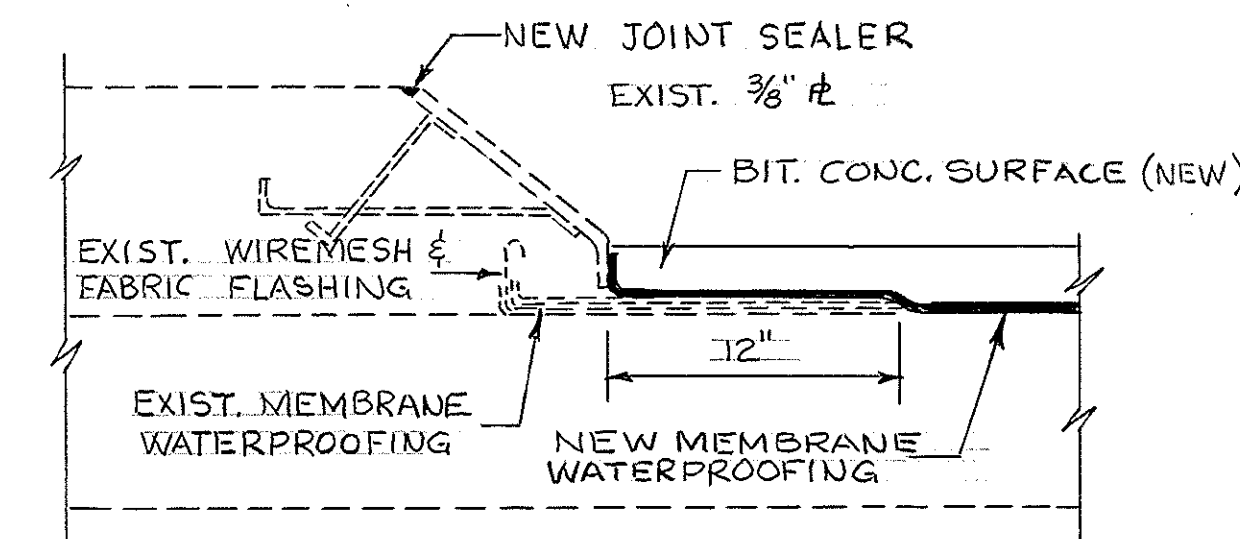
EXISTING SECTION A-A
NO SCALE



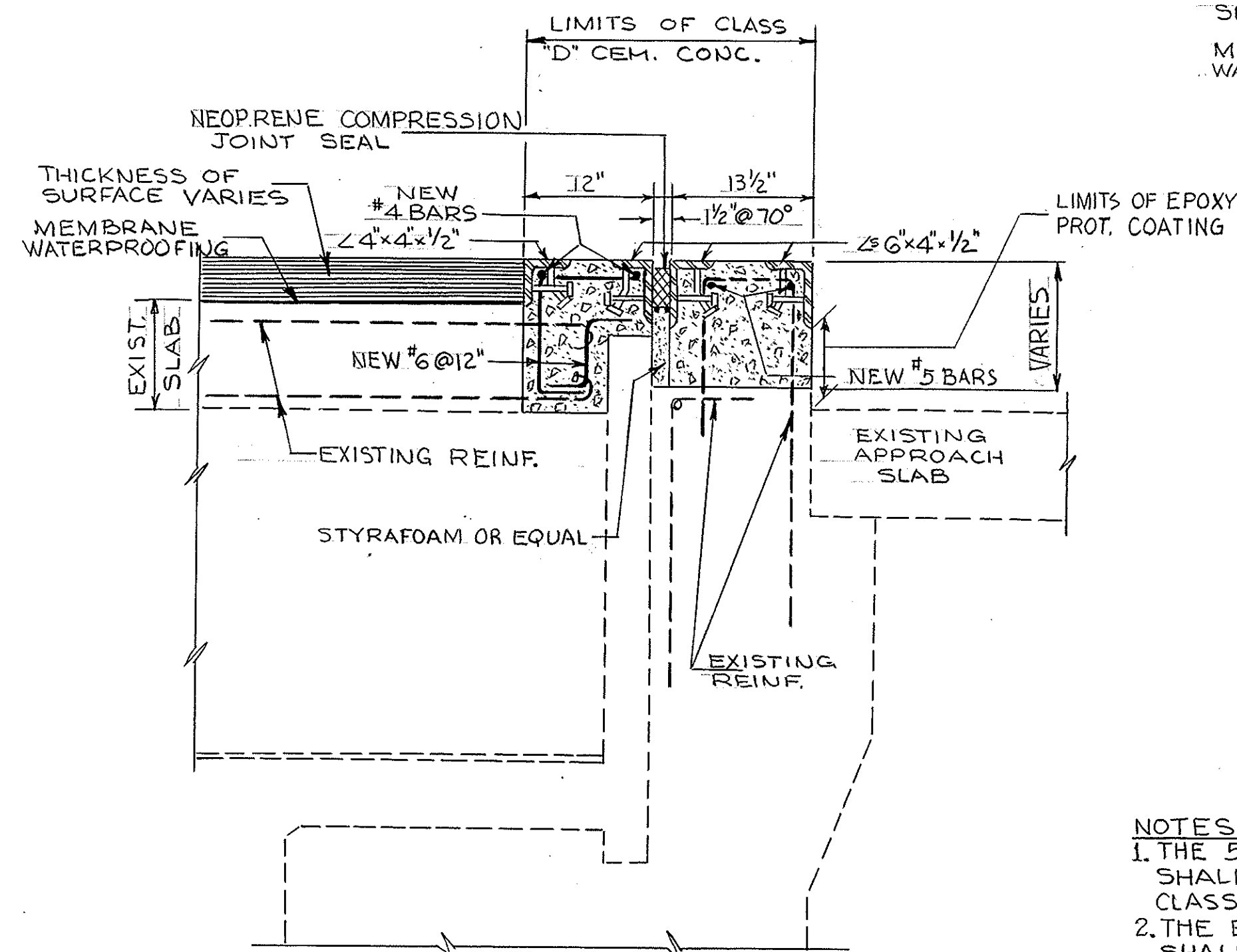
EXISTING SECTION B-B
NO SCALE



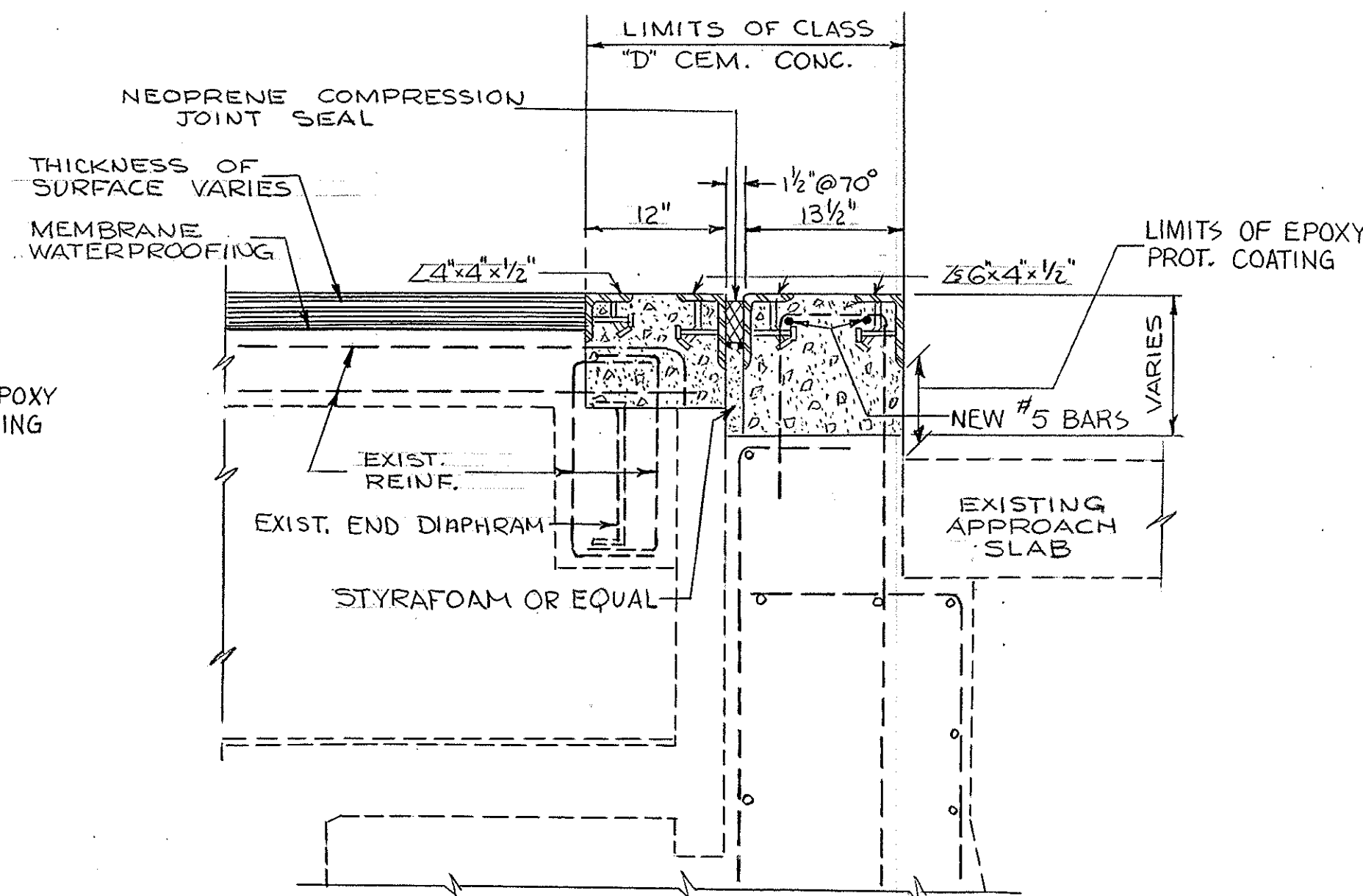
EXISTING SECTION D-D
NO SCALE



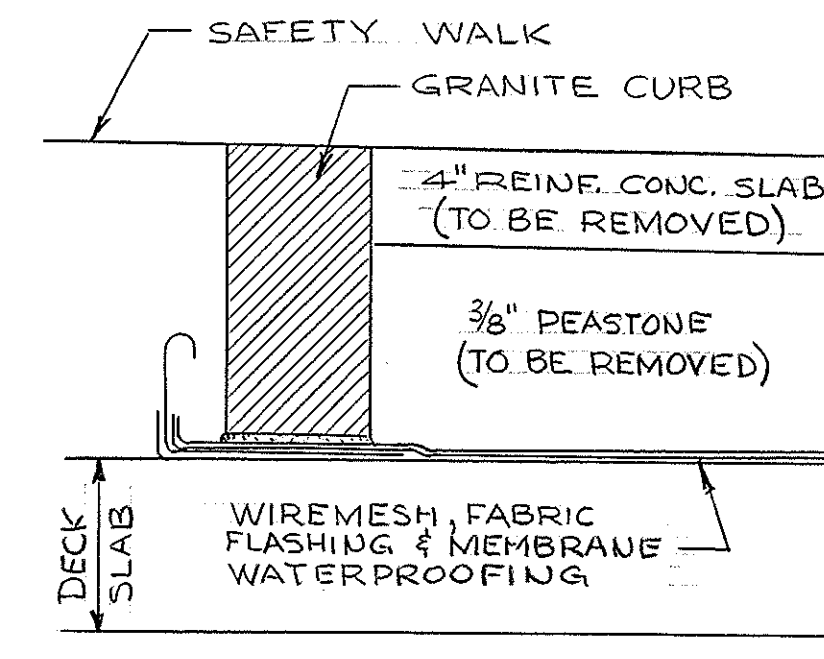
PROPOSED SECTION D-D
NO SCALE



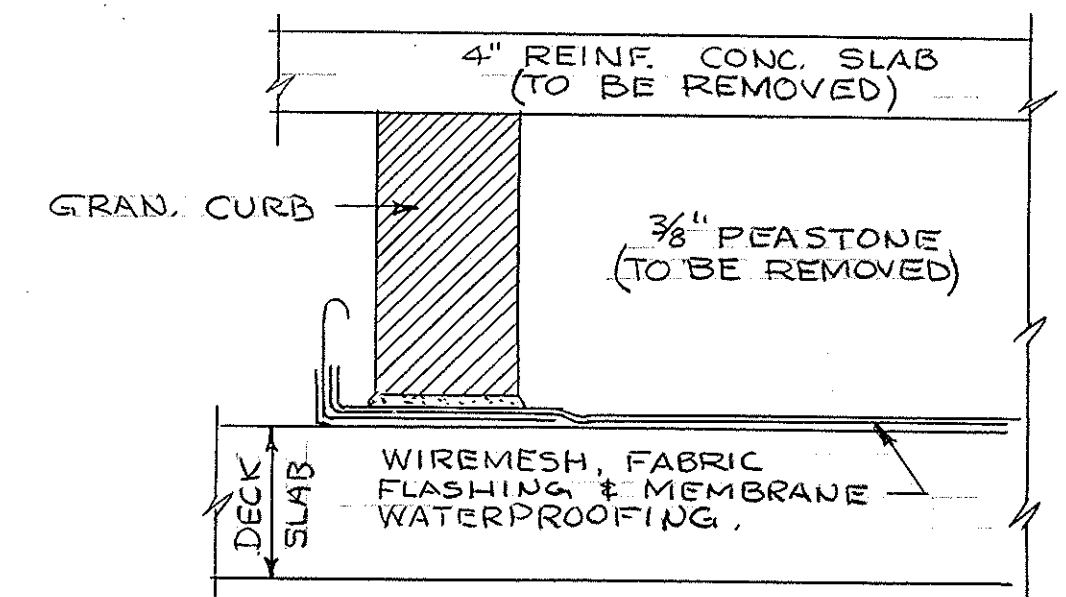
PROPOSED SECTION A-A
NO SCALE



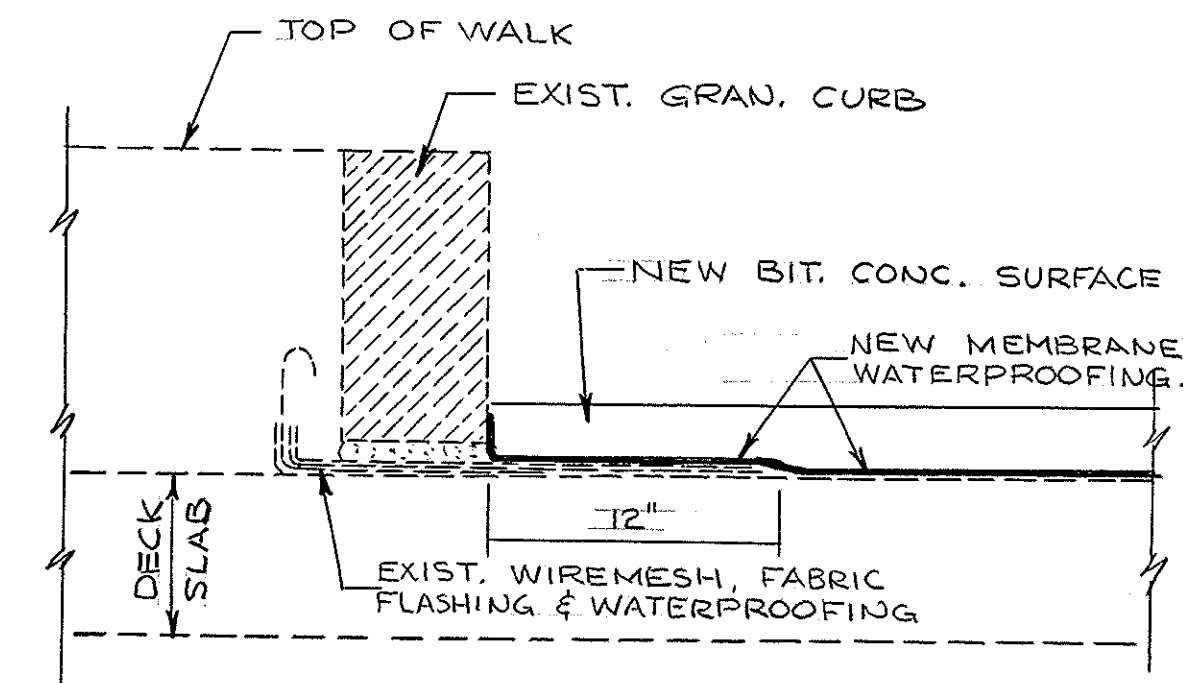
PROPOSED SECTION B-B
NO SCALE



EXISTING SECTION C-C
NO SCALE

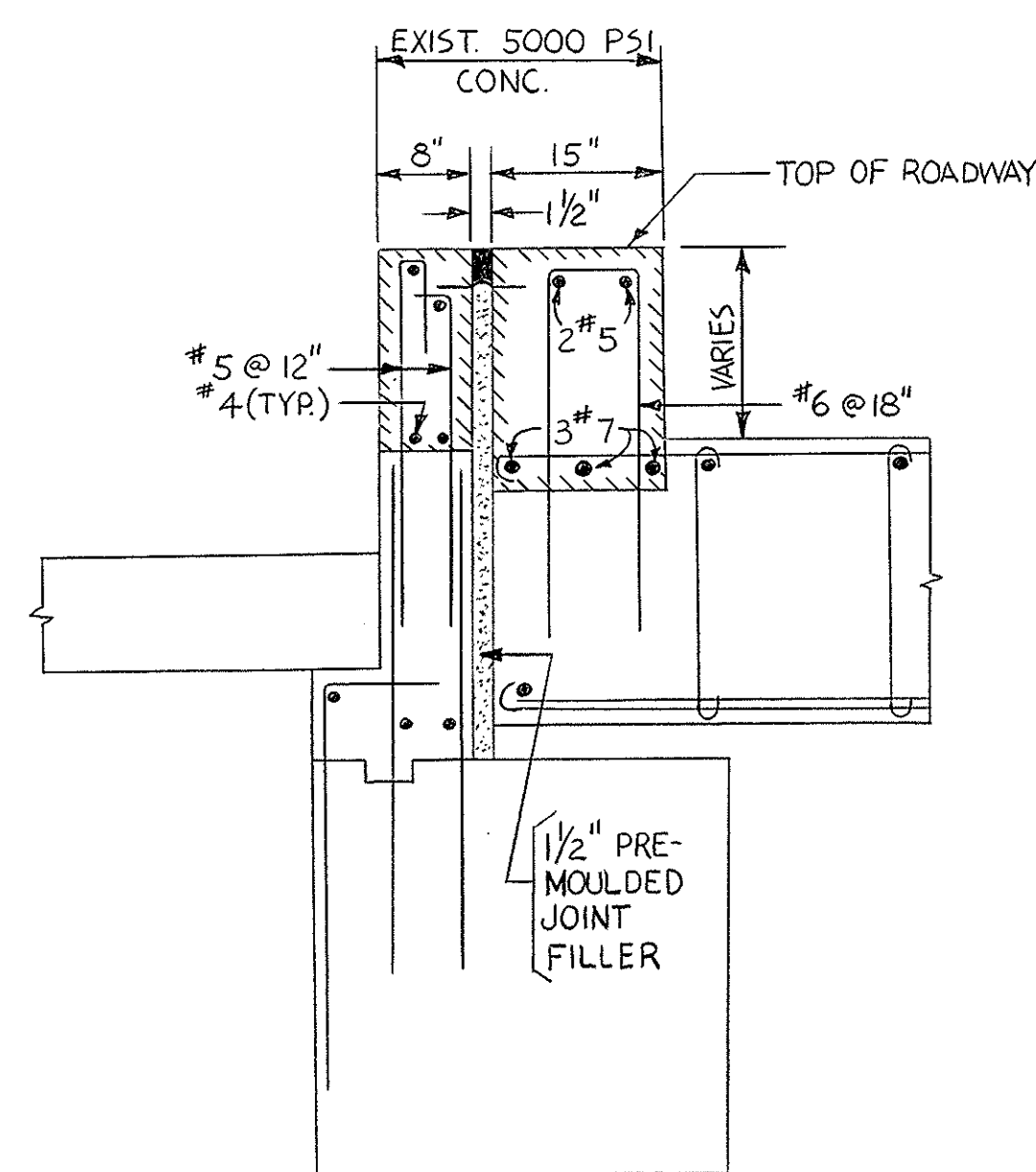


EXISTING SECTION E-E
NO SCALE

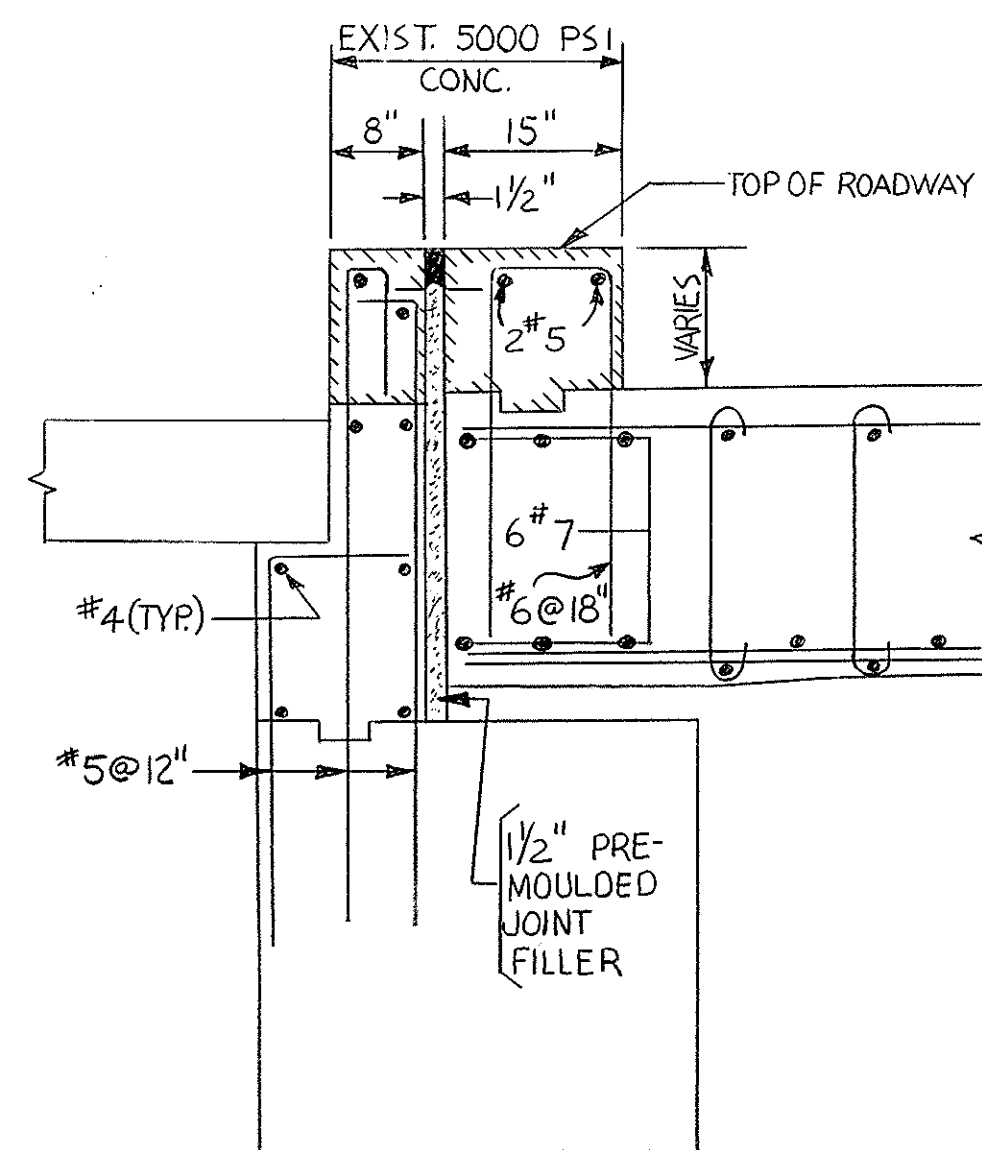


PROPOSED SECTION C-C & E-E
NO SCALE

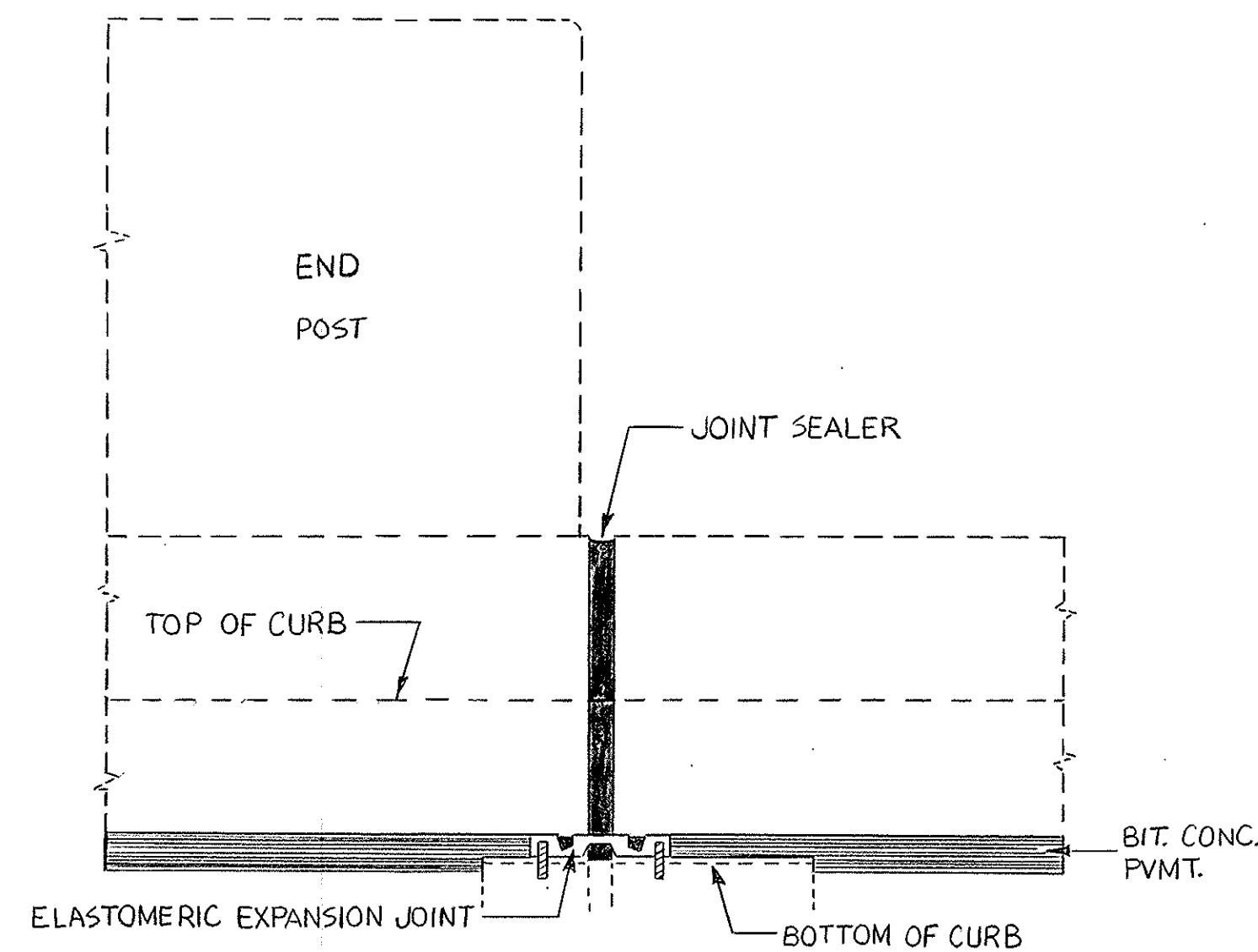
- NOTES:
1. THE 5000 PSI. CEM. CONC. SHOWN IN EXISTING SECTIONS A-A & B-B SHALL BE REMOVED TO THE LIMITS SHOWN AND REPLACED WITH CLASS "D" CEM. CONC. AS SHOWN IN PROPOSED SECTIONS A-A & B-B.
 2. THE EXISTING STEEL REINF. THAT IS TO REMAIN IN PLACE SHALL BE THOROUGHLY CLEANED OF OLD CONC. AND RUST BEFORE THEY ARE INCORPORATED INTO THE PROP. SECTIONS.
 3. THE EXIST. MEMBRANE WATERPROOFING SHALL BE REMOVED EXCEPT FOR A 12" STRIP ALONG EACH CURB LINE. THE NEW MEMBRANE SHALL LAP OVER THE REMAINING 12" STRIP AS SHOWN ABOVE.
 4. SEE SHEET # 9 FOR ARMORED JOINT DETAILS.
 5. HATCHED INDICATES MATERIAL TO BE REMOVED.
 6. WITHIN THE LIMITS AS SHOWN, ALL SURFACES SHALL BE THOROUGHLY CLEANED BEFORE THE INITIAL APPLICATION OF EPOXY PROTECTIVE COATING.



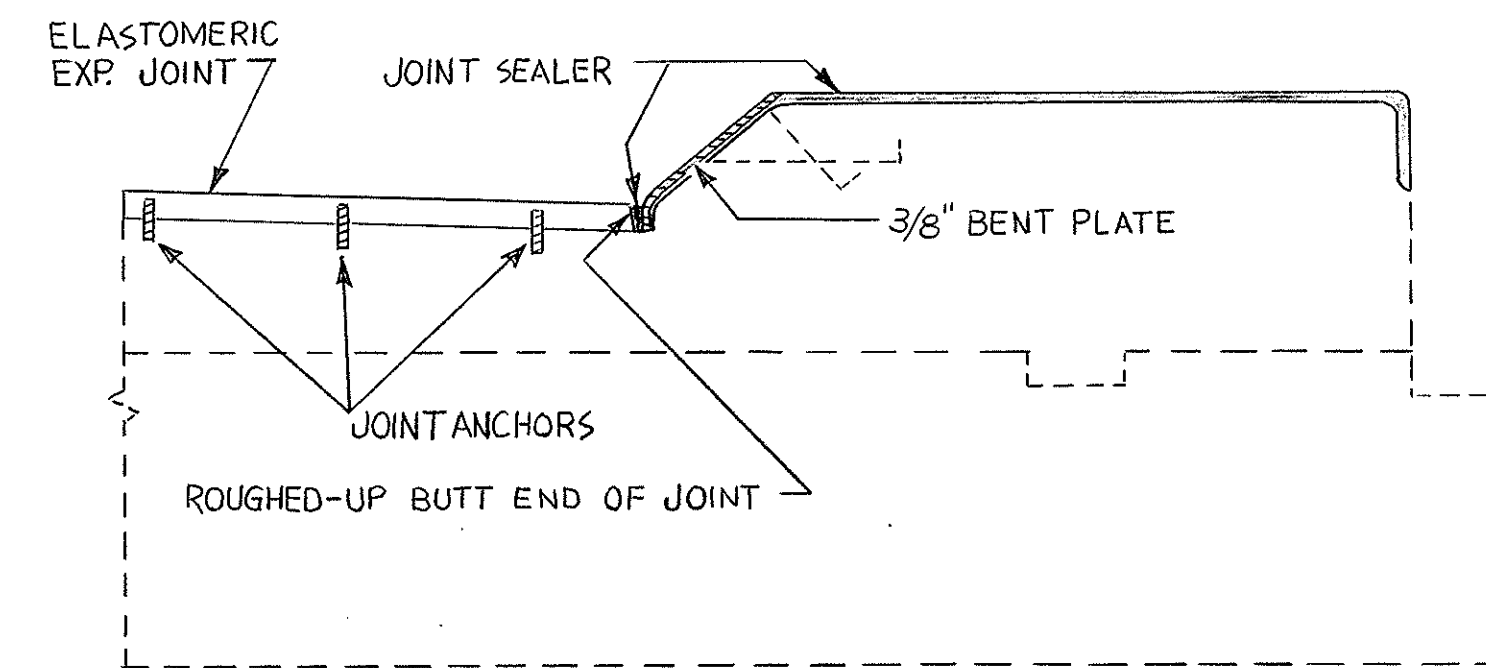
SECTION F-F
NOT TO SCALE



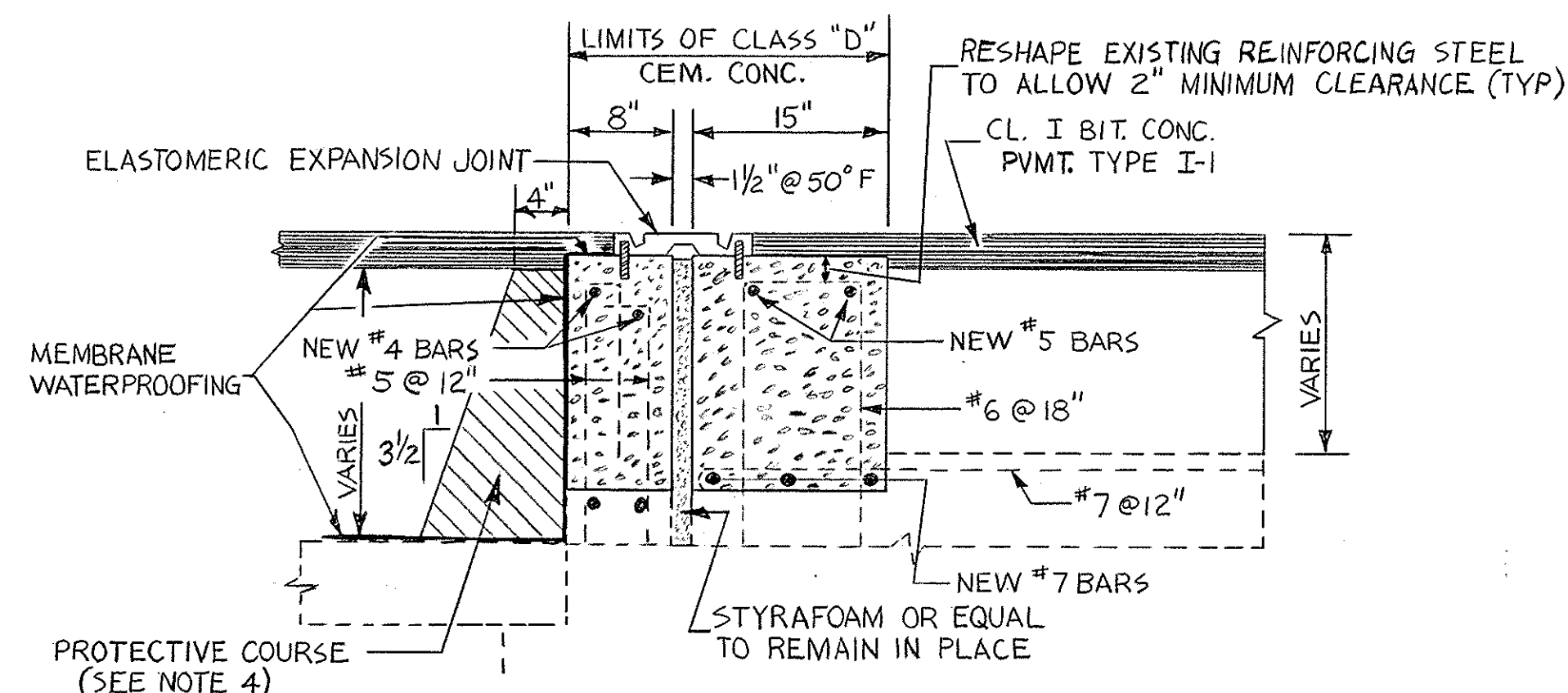
SECTION G-G
NOT TO SCALE



ELEVATION - ELASTOMERIC EXPANSION JOINT
AT GRANITE CURB
NOT TO SCALE



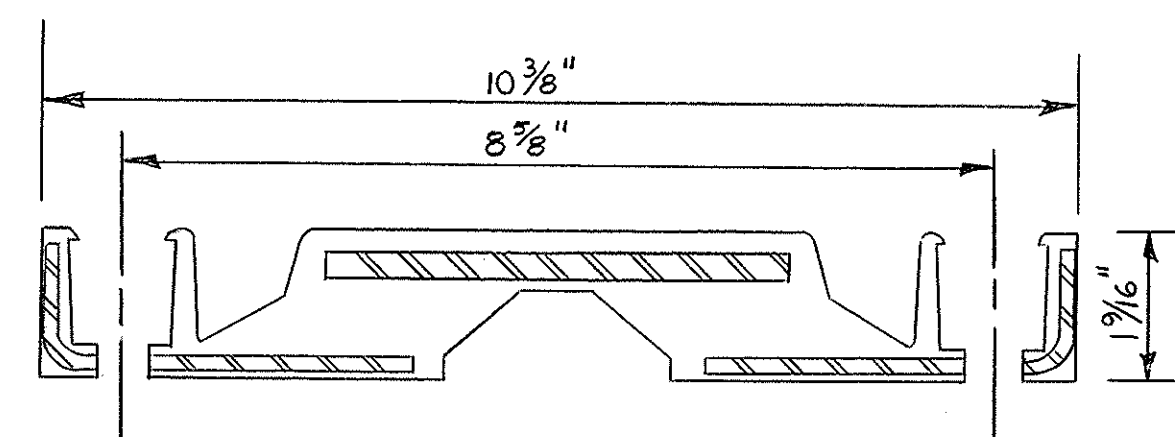
SECTION - ELASTOMERIC EXPANSION JOINT
AT MEDIAN
NOT TO SCALE



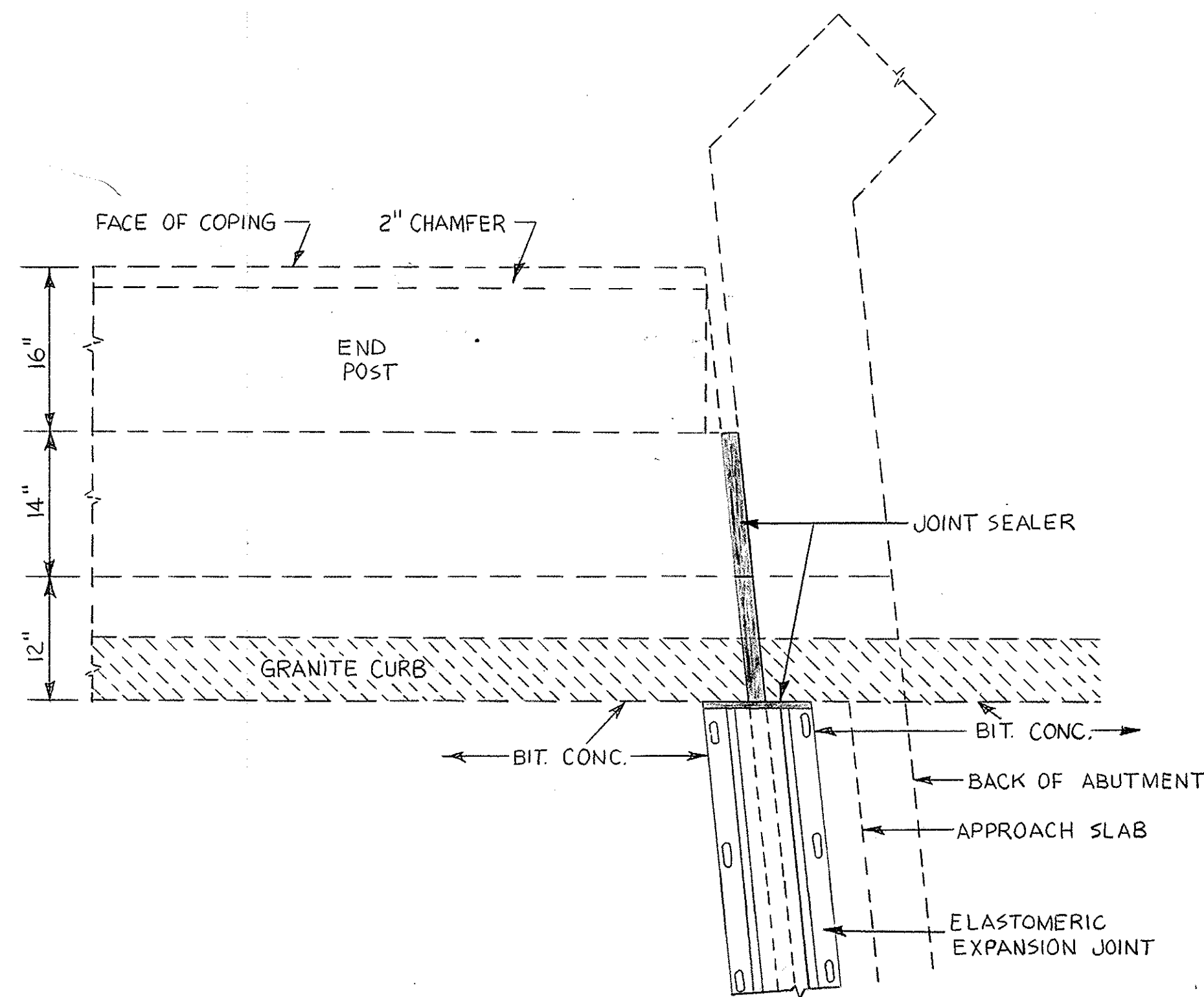
PROPOSED SECTIONS F-F AND G-G
NOT TO SCALE

NOTES:

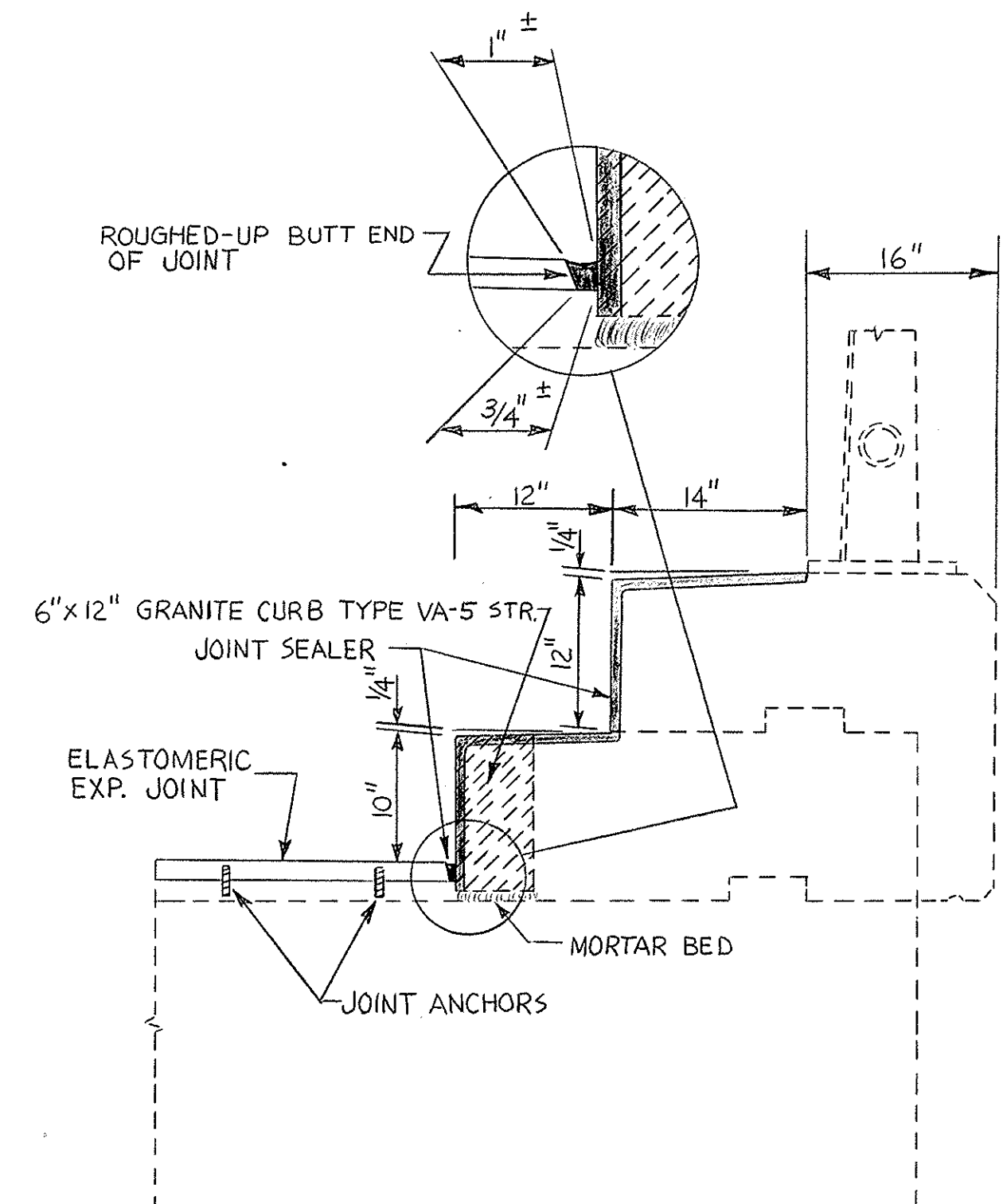
1. ALL DETAILS, PLANS, AND SECTIONS ON THIS SHEET PERTAIN SPECIFICALLY TO W-43-24.
2. DEPTH OF CONCRETE EXCAVATION TO BE DETERMINED BY THE ENGINEER.
3. [Hatched pattern] INDICATES MATERIAL TO BE REMOVED.
4. BRICK OR 8" x 16" x 2" CLASS D CEMENT CONCRETE MASONRY BLOCKS LAID IN MORTAR, OR POURED IN PLACE CLASS D CEMENT CONCRETE MASONRY. SEE PROTECTIVE COURSE ABOVE.



ELASTOMERIC EXPANSION JOINT
NOT TO SCALE

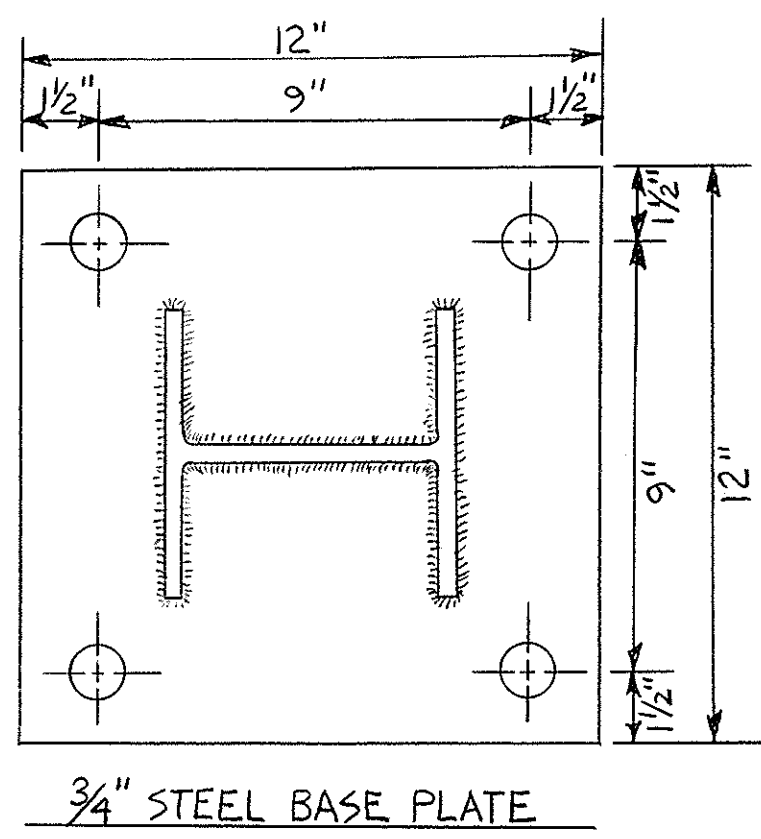


PLAN - ELASTOMERIC EXPANSION JOINT
AT GRANITE CURB
NOT TO SCALE

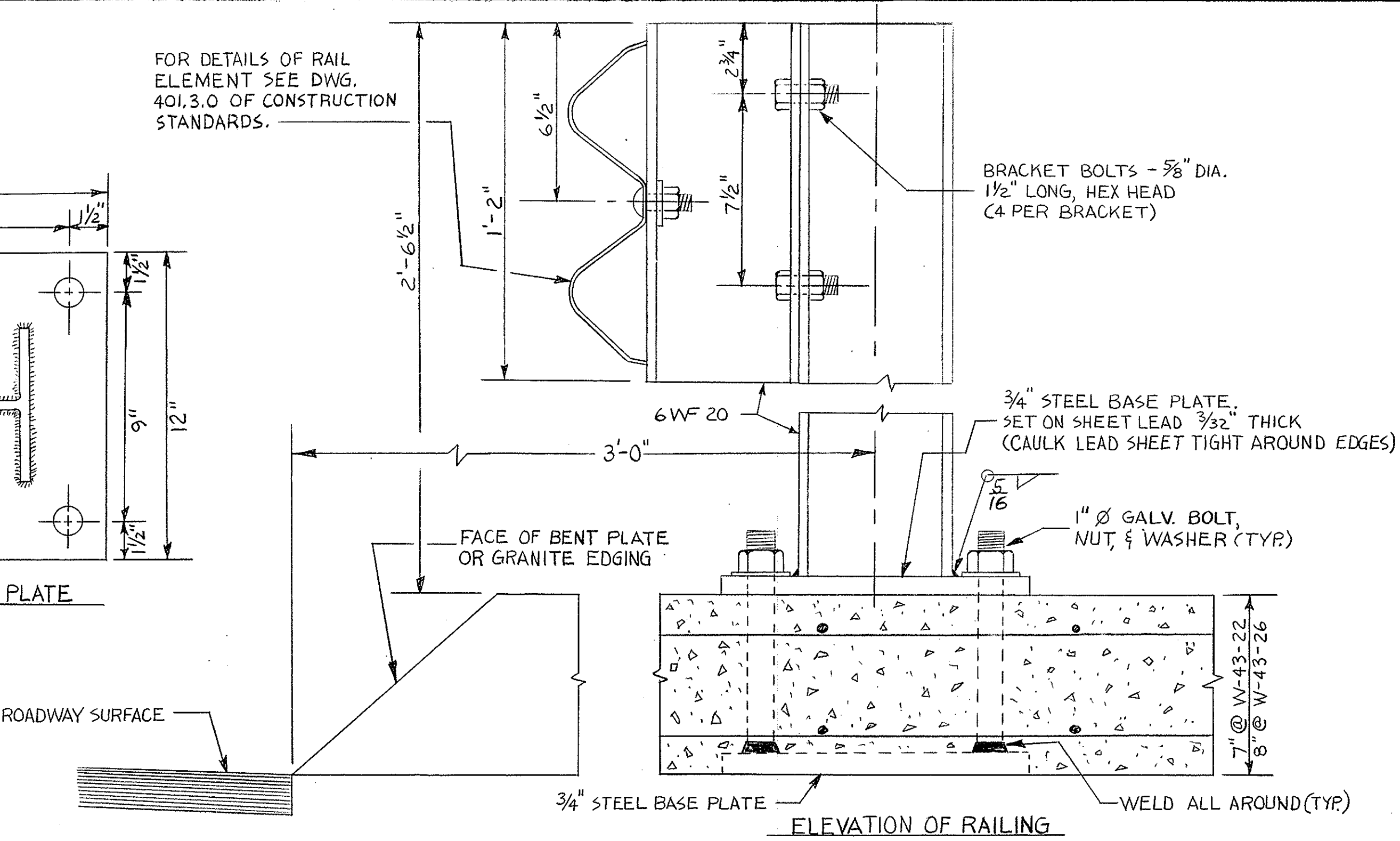


SECTION - ELASTOMERIC EXPANSION JOINT
AT GRANITE CURB
NOT TO SCALE

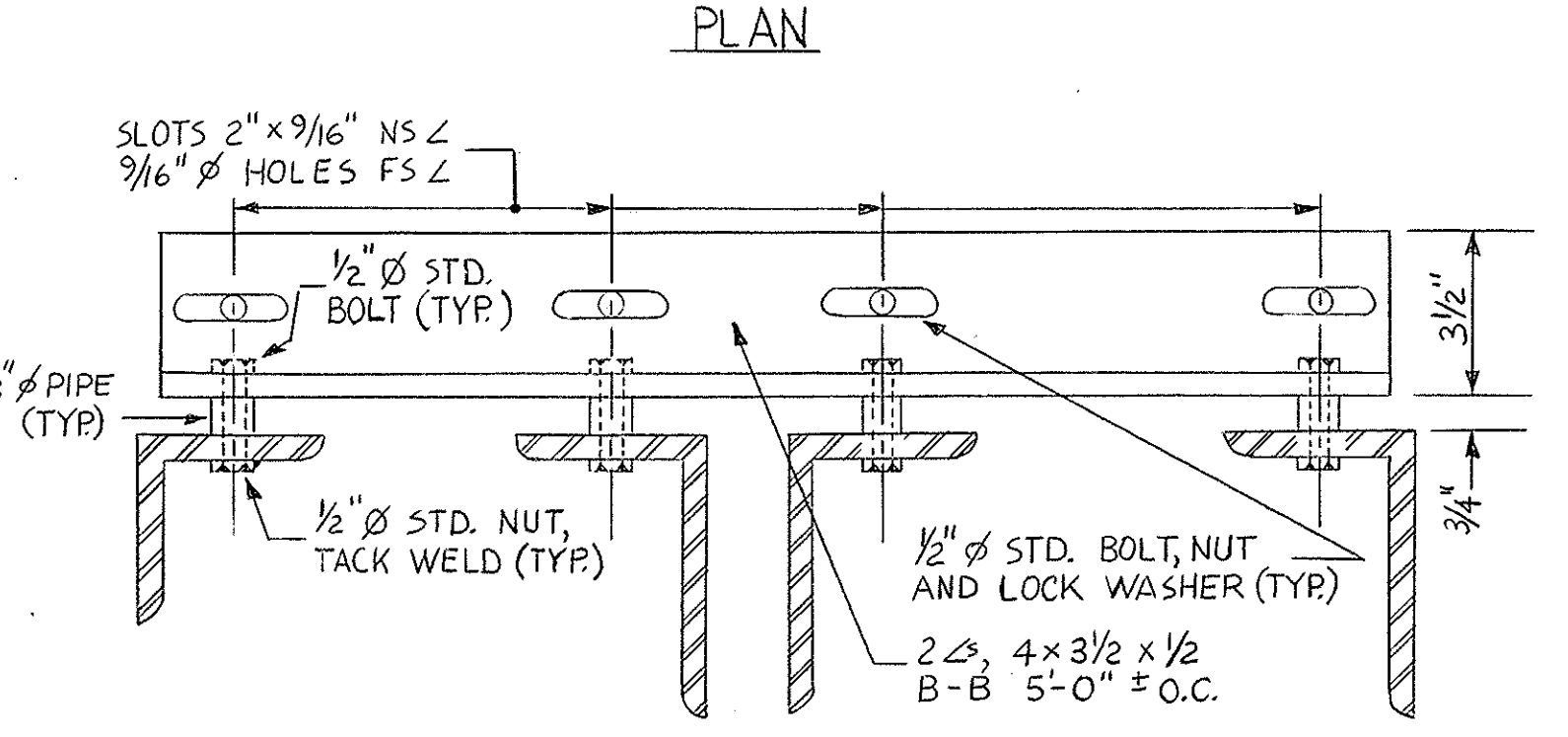
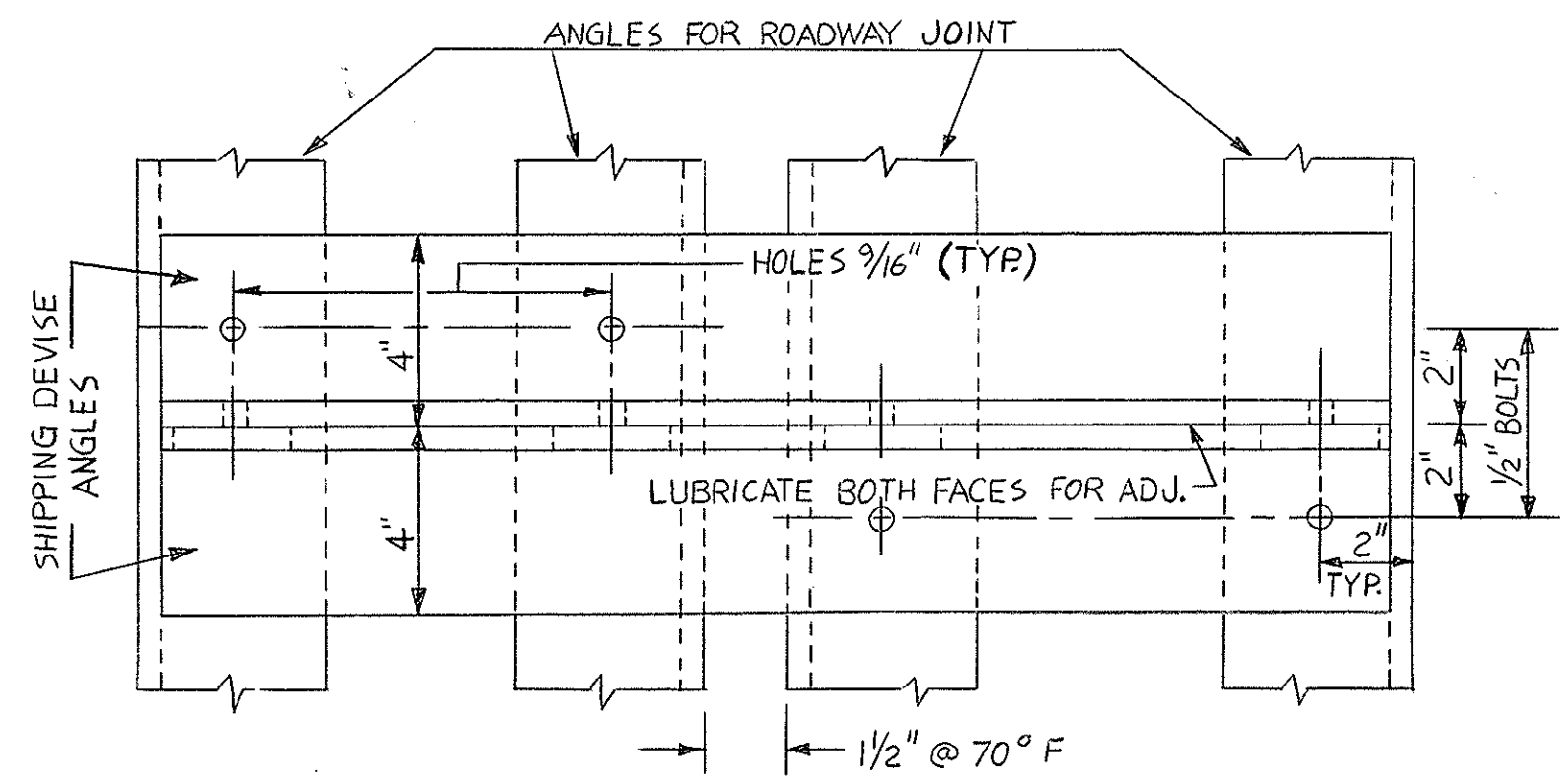
- NOTES:
1. ANCHORAGE FOR BRIDGE MEDIAN GUARD ON REBUILT MEDIANS TYPICAL AS SHOWN. ANCHORAGE FOR BRIDGE MEDIAN GUARD ON RIGID FRAME MEDIANS SIMILAR AS SHOWN EXCEPT THAT 1" Ø GALVANIZED SWEDGE BOLTS SHALL BE SET IN EPOXY MORTARMIX, IN DRILLED HOLES TO A MINIMUM OF 10" IMBEDMENT.
 2. MAXIMUM PANEL LENGTH = 6'-3" CONTINUOUS FOR TWO PANELS. POSTS SHALL BE SET PLUMB. PROVIDE EXPANSION JOINT WHERE PANEL IS OVER EXPANSION JOINT IN DECK.



FOR DETAILS OF RAIL ELEMENT SEE DWG. 401.3.0 OF CONSTRUCTION STANDARDS.

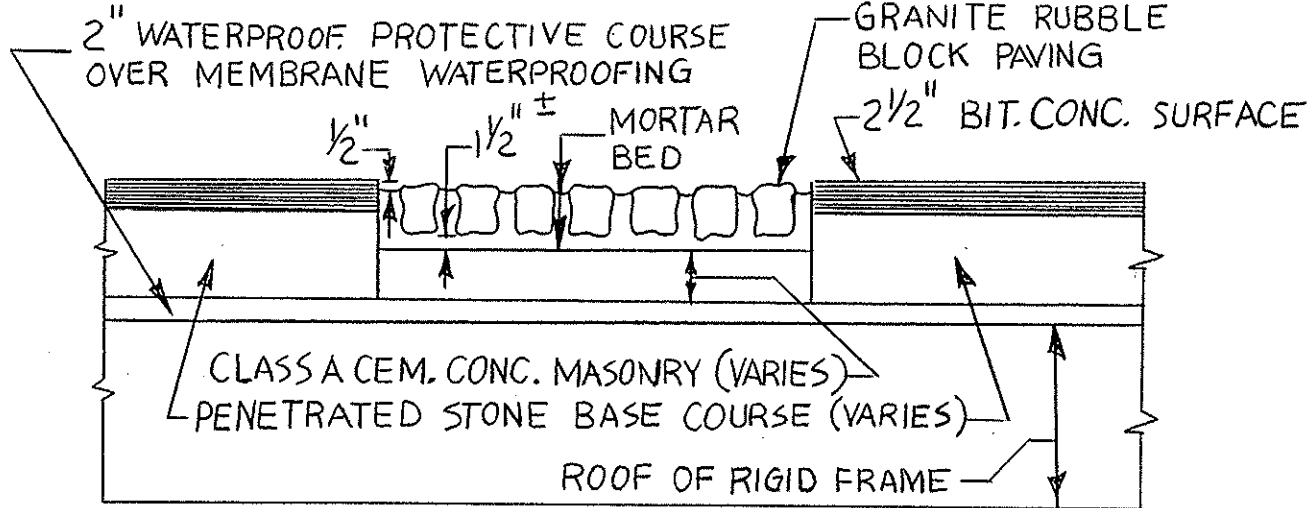


BRIDGE MEDIAN GUARD
NOT TO SCALE

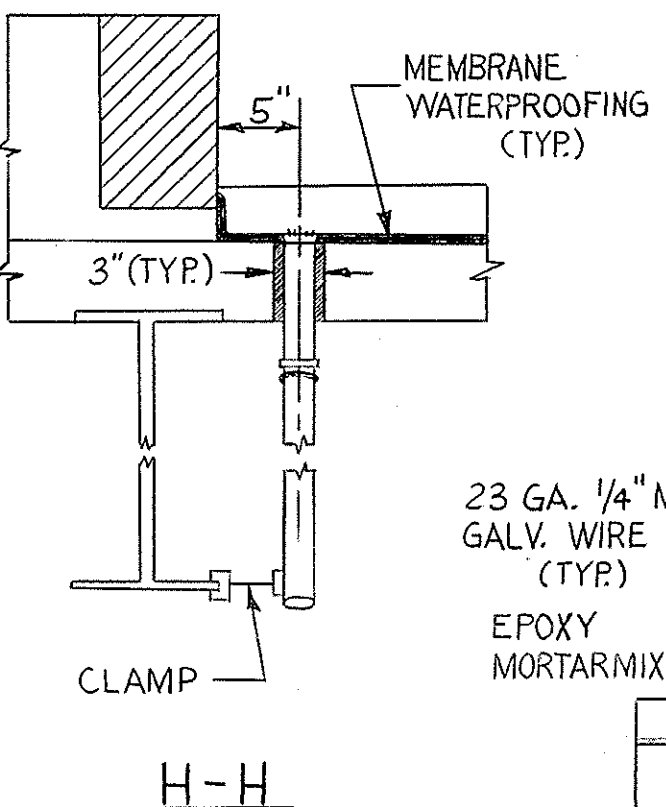
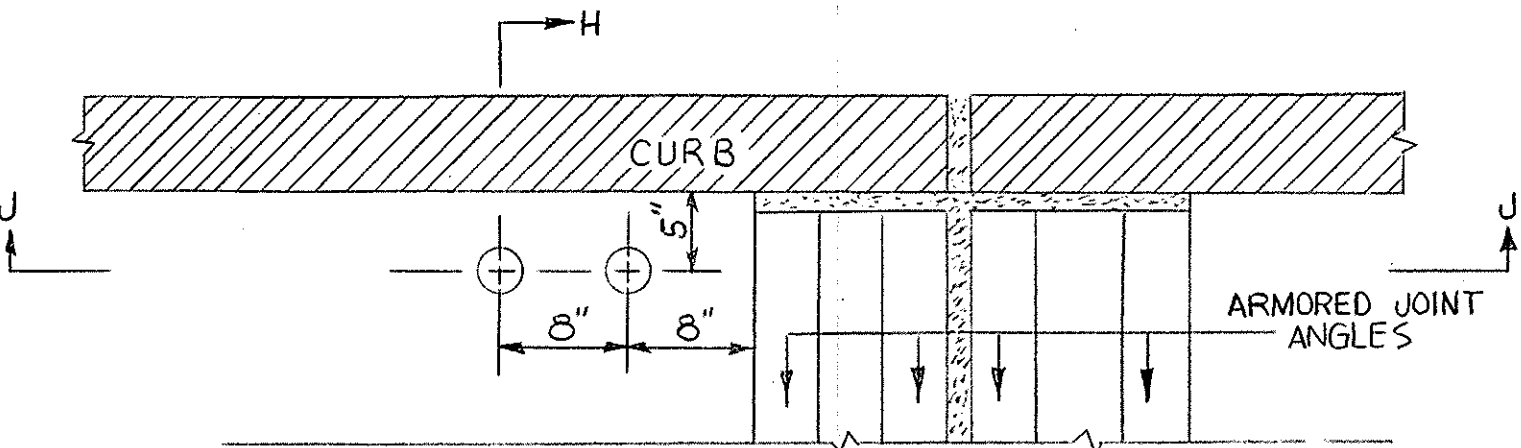


1. AFTER REMOVAL OF SHIPPING DEVICE CAULK HOLES IN ROADWAY ANGLES WITH LEAD WOOL.
2. ALL EXPOSED SURFACES OF JOINT SHALL BE FIELD PAINTED.
3. BOLTS ON SHIPPING DEVICE MUST BE LOOSENED WITHIN ONE HOUR AFTER CONCRETE IS PLACED SO THAT MOVEMENT MAY TAKE PLACE. DEVICE SHALL BE REMOVED AFTER CONC. HAS SET ON BOTH SIDES OF THE ASSEMBLY.
4. ALL ARMORED JOINT ASSEMBLIES MUST BE PROPERLY FITTED IN THE SHOP AND SHIPPED WITH DEVICE FOR MAINTAINING PROPER SPACING AND FIT.
5. SHOP DRAWINGS SHALL BE SUBMITTED FOR THIS DEVICE.
6. CONCRETE UNDER SHIPPING DEVICE TO BE GIVEN A SCREED FINISH BY HAND SIMILAR TO EXPOSED SECTIONS BETWEEN SHIPPING ASSEMBLIES.

SHIPPING DEVICE FOR ROADWAY ARMORED JOINTS
NOT TO SCALE

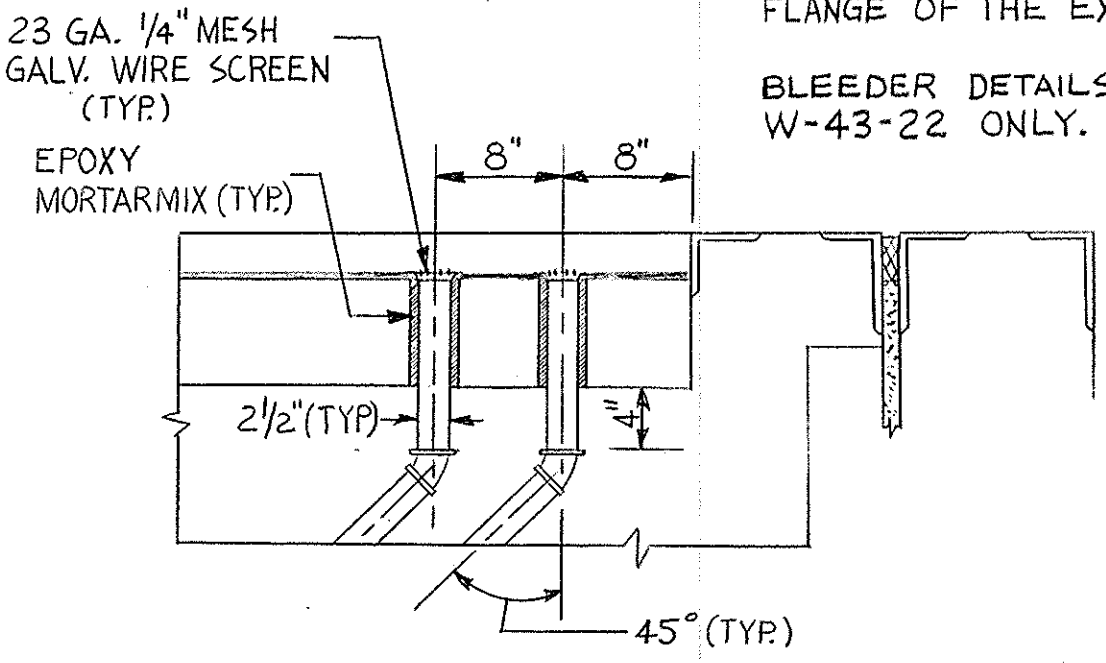


SECTION OF RUBBLE STRIP
NOT TO SCALE

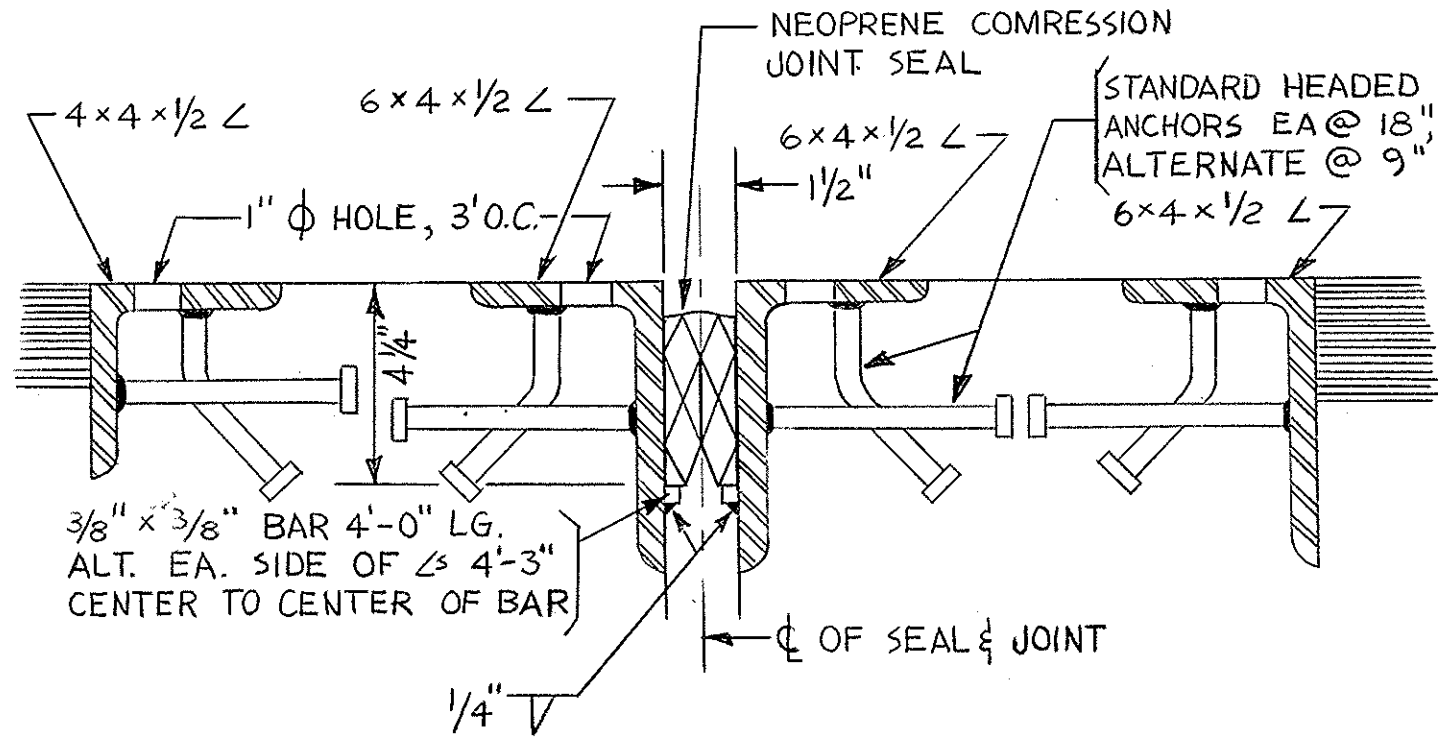


NOTE: 2 1/2" POLYVINYL CHLORIDE PLASTIC PIPES TO BE LOCATED AT LOW END OF WESTERLY SPAN AS SHOWN IN TYPICAL BLEEDER DETAILS. PIPE TO BE SET FLUSH WITH TOP OF EXPOSED CONCRETE DECK, EXTENDING BELOW THE BOTTOM FLANGE OF THE EXISTING STRINGER. THE CONTRACTOR SHALL SUPPLY AND INSTALL A CLAMP SECURING THE PIPE TO THE BOTTOM FLANGE OF THE EXISTING STRINGER.

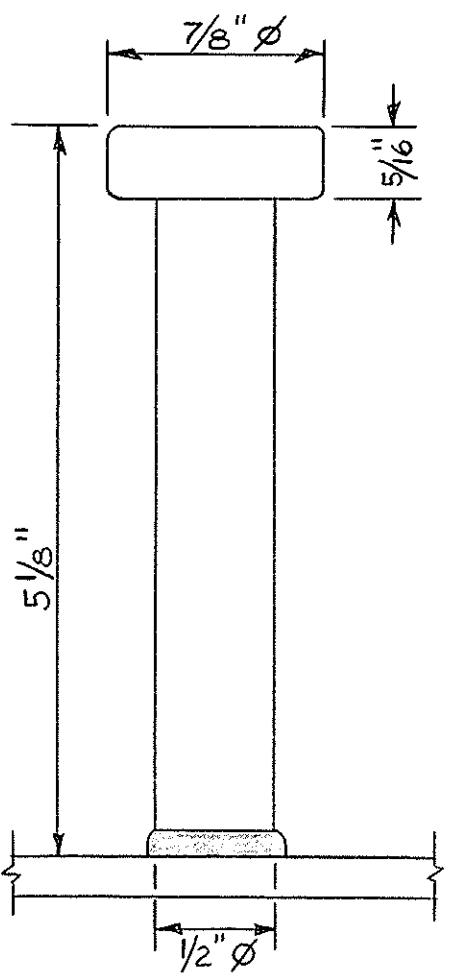
BLEEDER DETAILS PERTAIN TO W-43-22 ONLY.



TYPICAL BLEEDER DETAILS
NOT TO SCALE



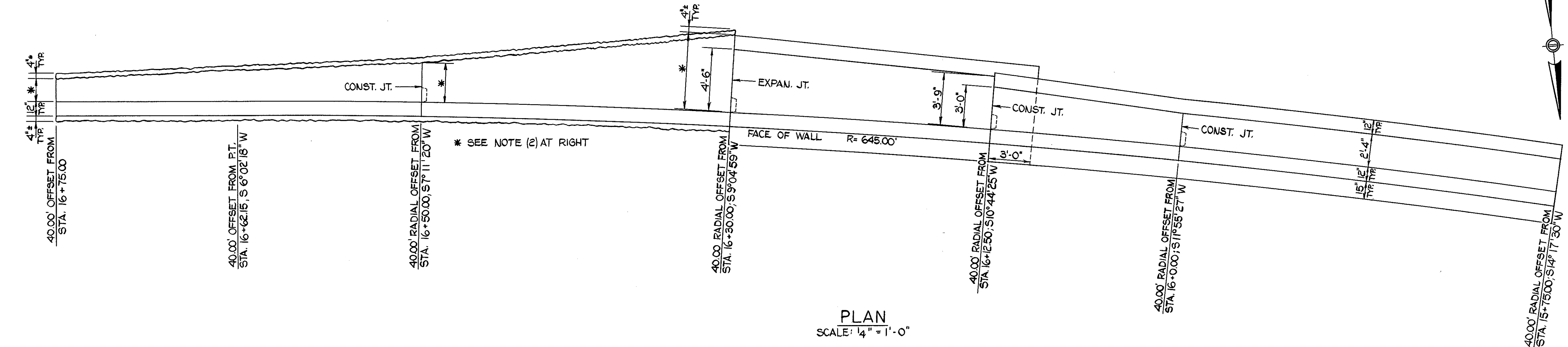
ROADWAY ARMORED JOINT DETAIL
SCALE: 3" = 1'-0"



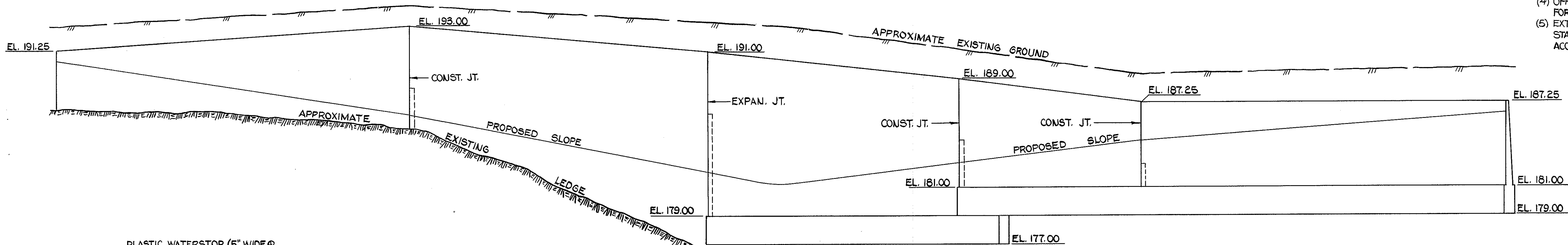
STANDARD HEADED ANCHOR
NOT TO SCALE

PUB. RD. DIV. NO.	STATE	FEDERAL AID PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	MASS.	EPS U 272(8)		153	482

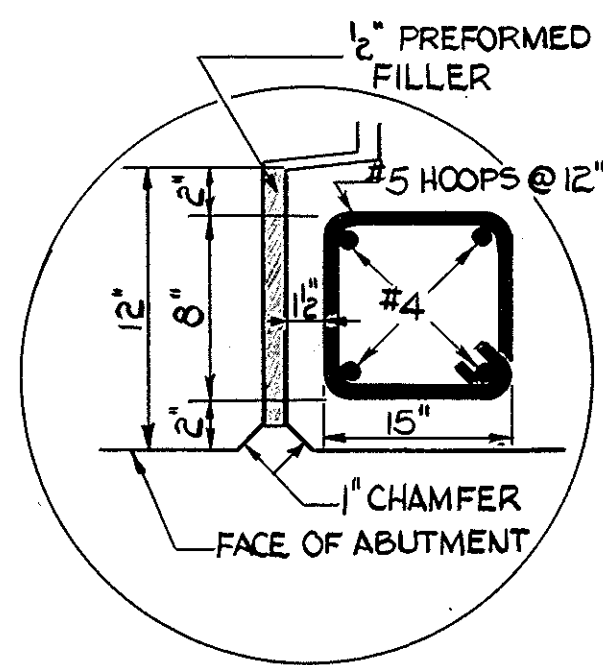
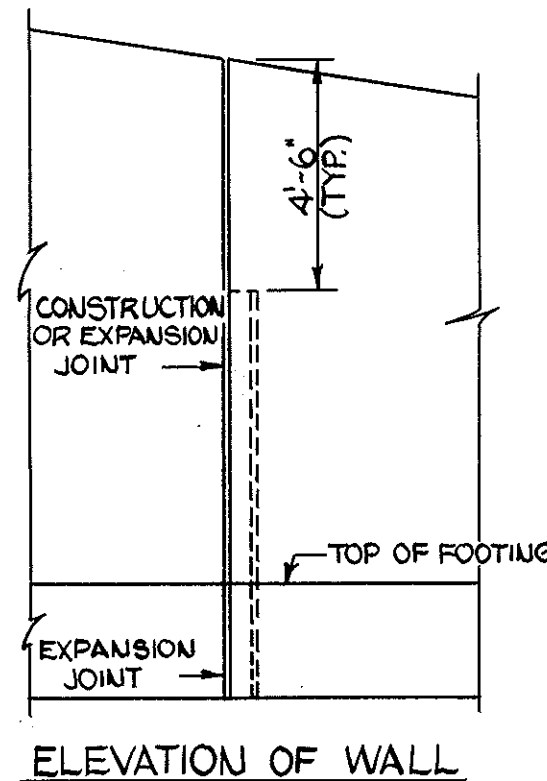
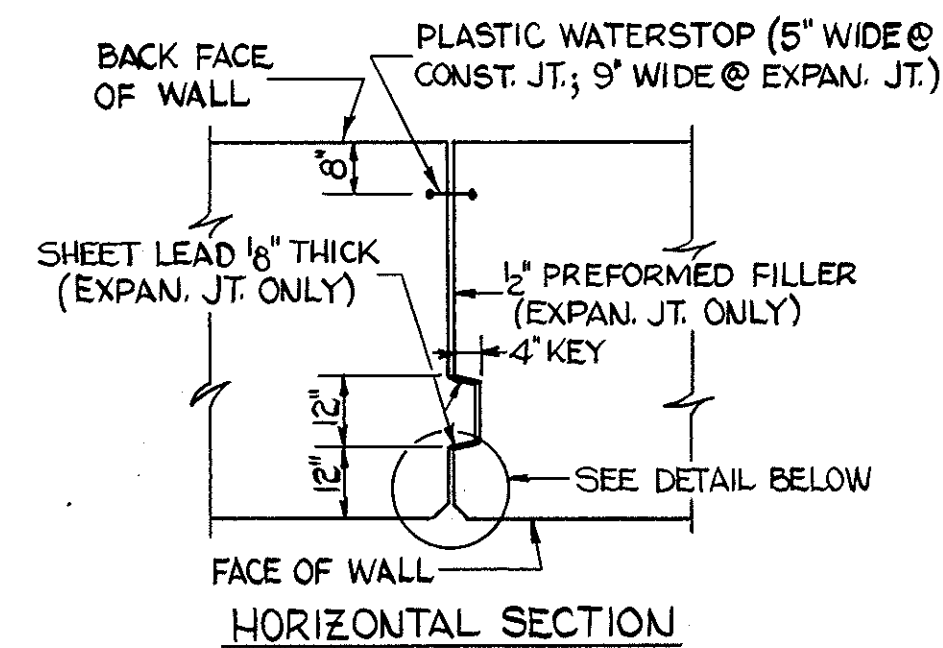
RET. WALL B-29-WI



PLAN
SCALE: 1/4" = 1'-0"

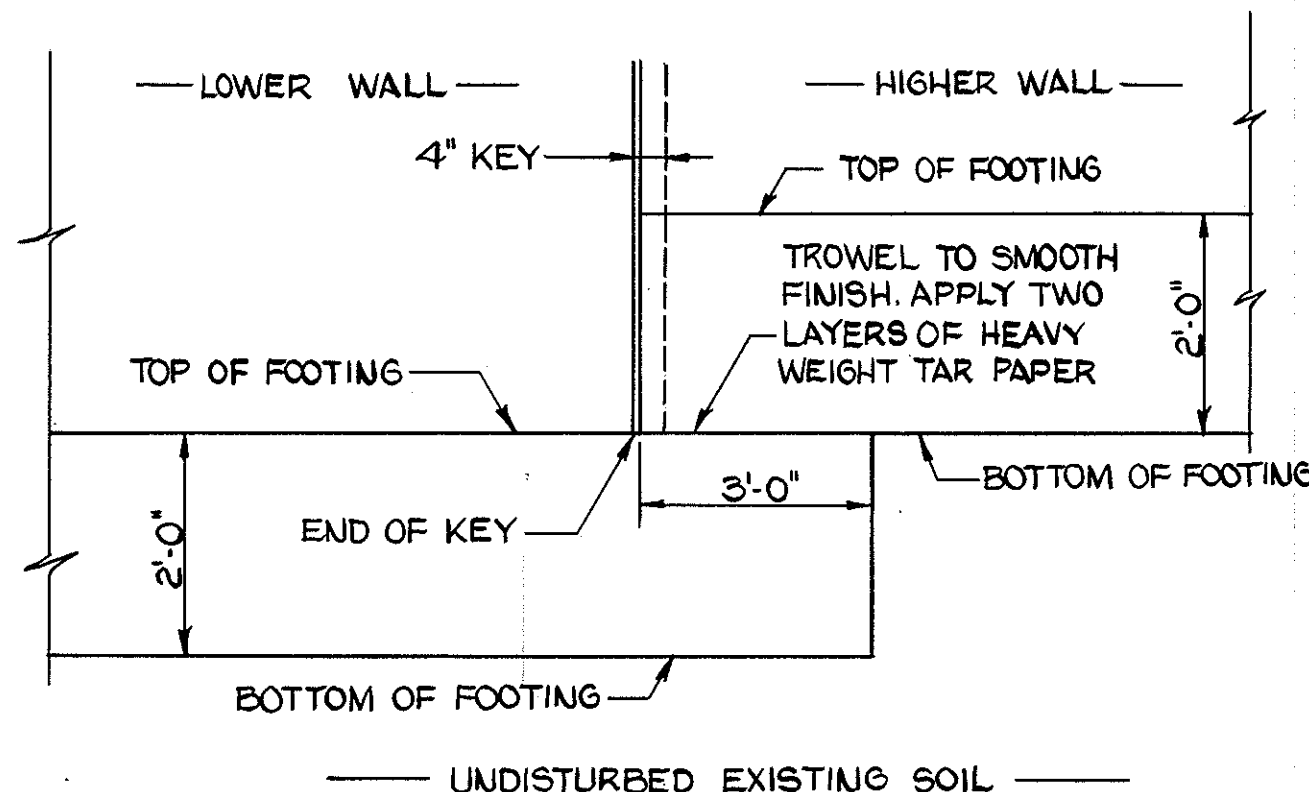


ELEVATION
SCALE: 1/4" = 1'-0"

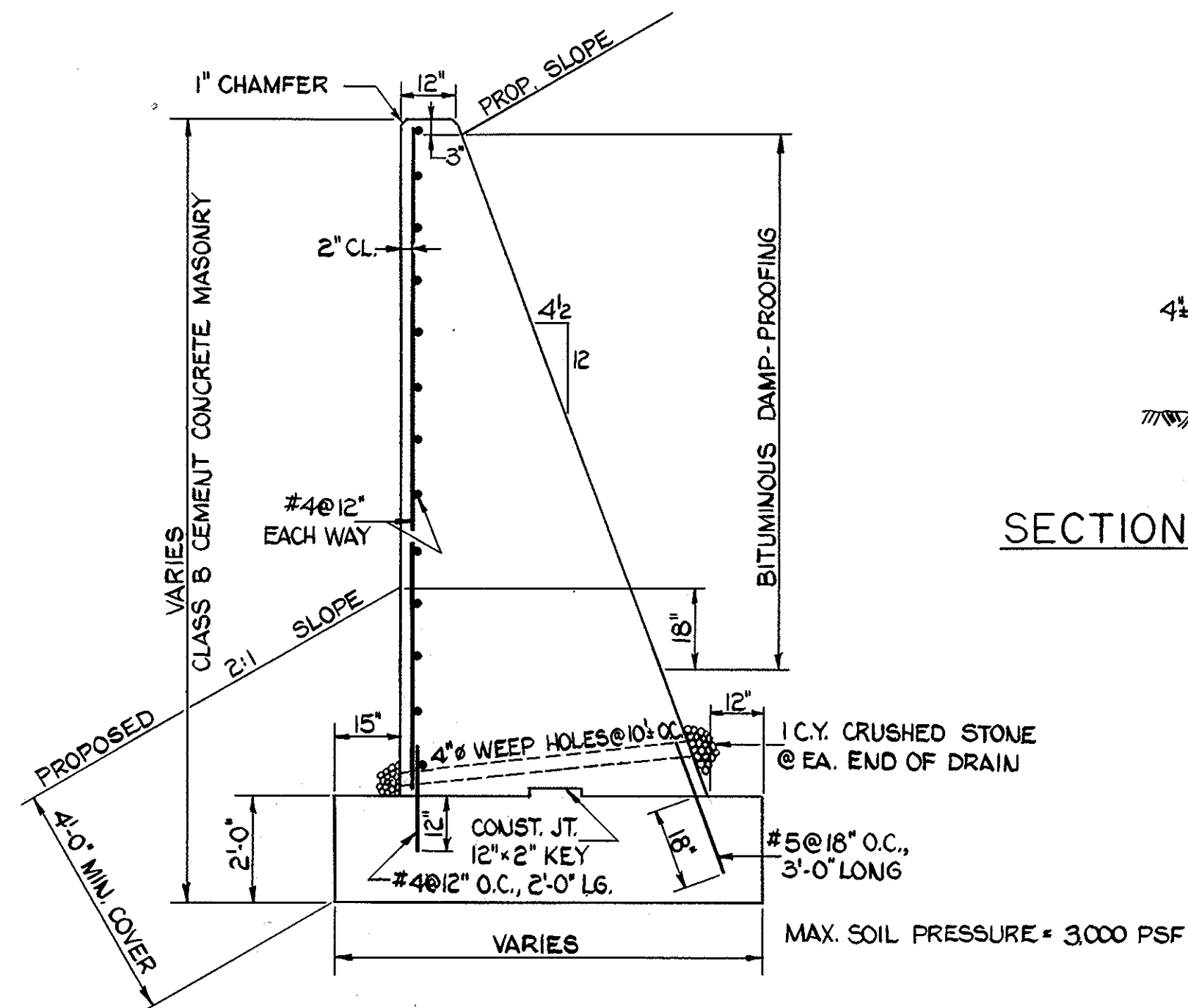


CONSTRUCTION & EXPANSION JOINT DETAILS
NO SCALE

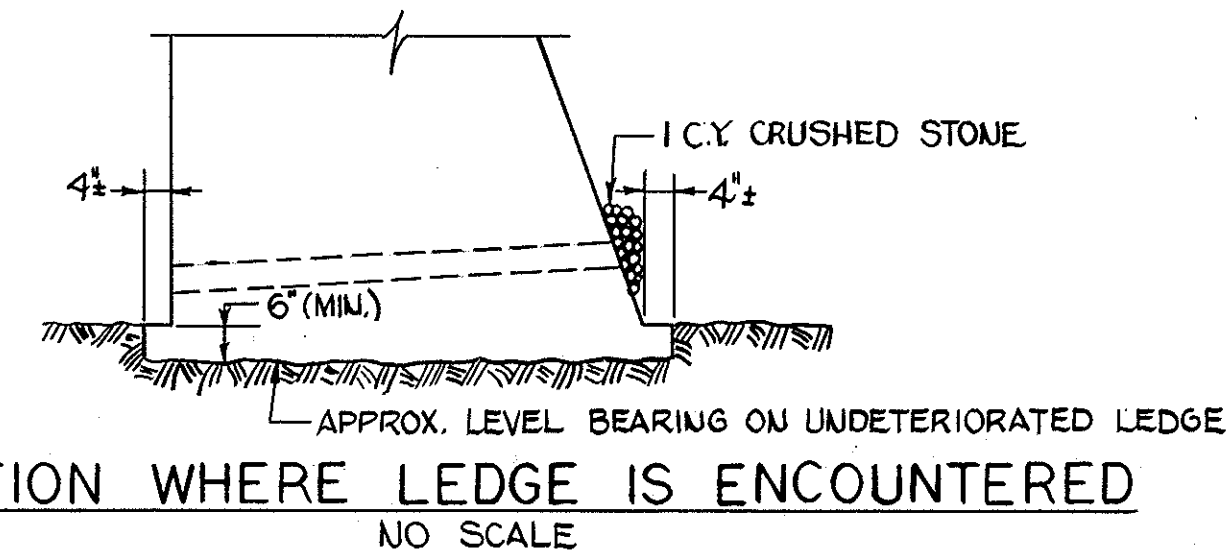
NOTE: INDICATED REINFORCING AND PREFORMED FILLER ARE FOR EXPANSION JOINT ONLY



STEPPED-UP FOOTING FOR WALL
NO SCALE



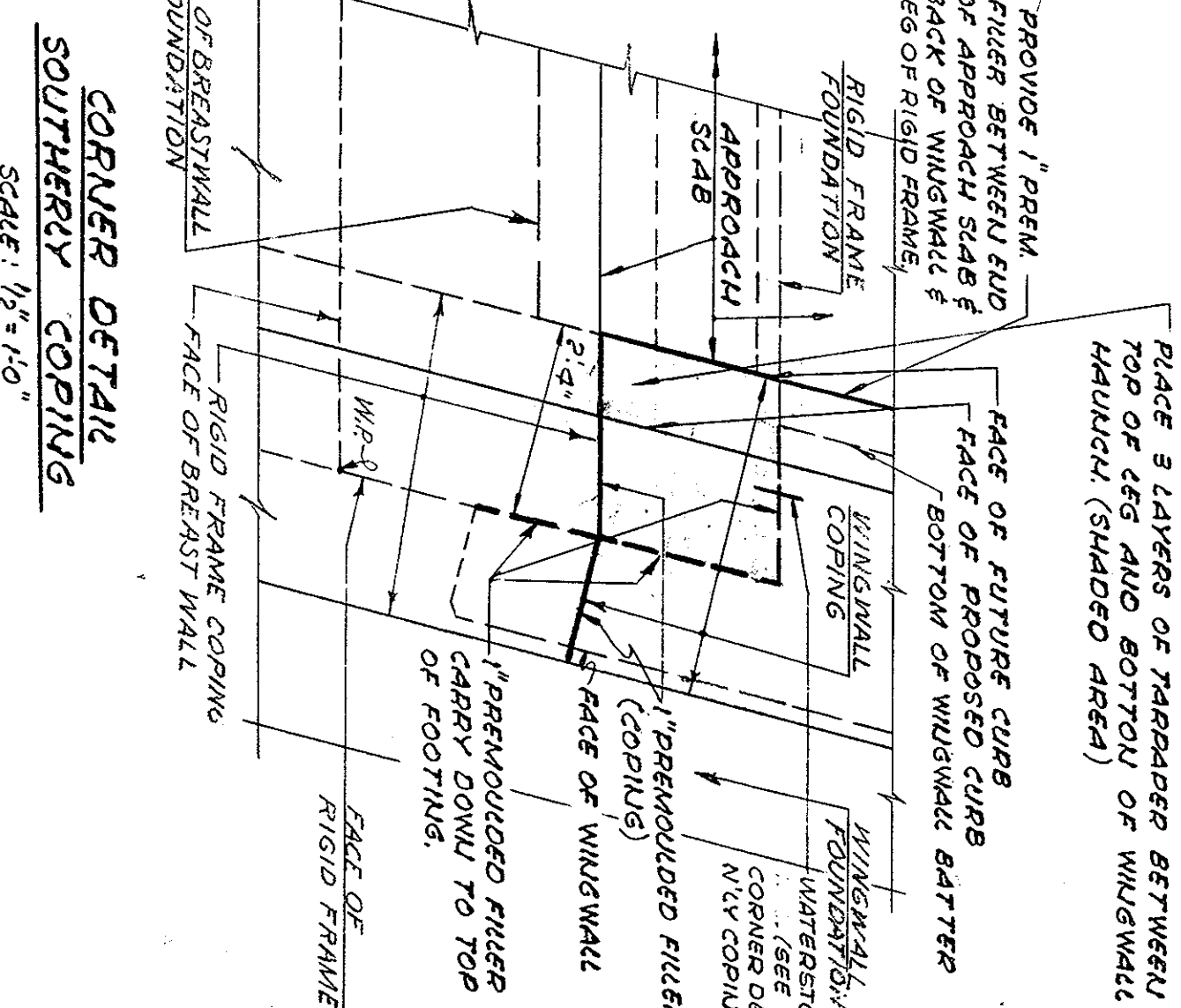
TYPICAL WALL SECTION
NO SCALE



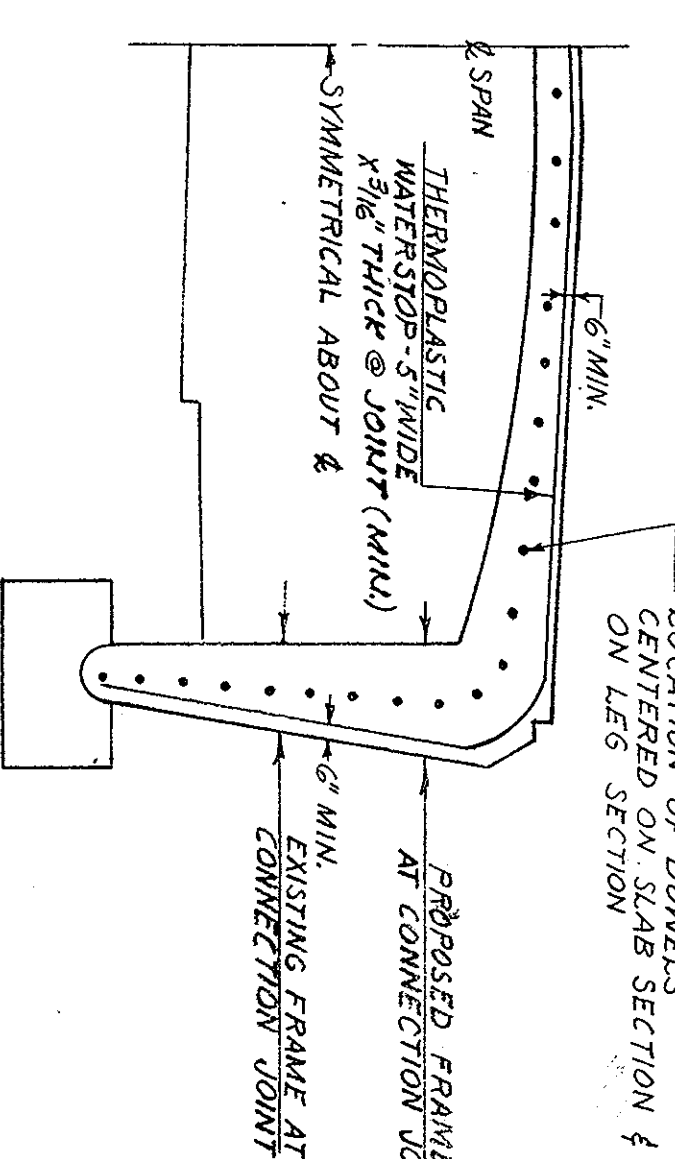
SECTION WHERE LEDGE IS ENCOUNTERED
NO SCALE

- NOTES:
- (1) LOCATION OF EXPANSION JOINT DEPENDS UPON OCCURANCE OF LEDGE NEAR THE BOTTOM OF FOOTING (AT FACE OF WALL) AS INDICATED IN ELEVATION VIEW.
 - (2) DIMENSION IS DETERMINED IN FIELD BASED UPON HOLDING 4 1/2:12 BATTER FOR DIFFERENCE IN ELEVATIONS BETWEEN PROPOSED TOP OF WALL AND LEDGE ENCOUNTERED AT FACE OF WALL.
 - (3) CONSTRUCTION JOINT LOCATIONS MAY BE CHANGED UPON APPROVAL OF THE ENGINEER, WITH MAXIMUM SPACING OF JOINTS TO BE 26'-8".
 - (4) OFFSETS ARE TO FACE OF WALL FROM B SURVEY FOR PROPOSED SW OUTER LOOP.
 - (5) EXTENSION OR DELETION OF WALL LENGTH FROM STA. 16+75.00 TO BE DECIDED BY ENGINEER ACCORDING TO FIELD CONDITIONS.

OCT. 30, 1971	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION
	USE ONLY PRINTS OF LATEST DATE



SCALE: $1/2" = 1'-0"$



SCALE: $\frac{1}{8} = 1'$

TYPICAL CORNER
REINFORCEMENT

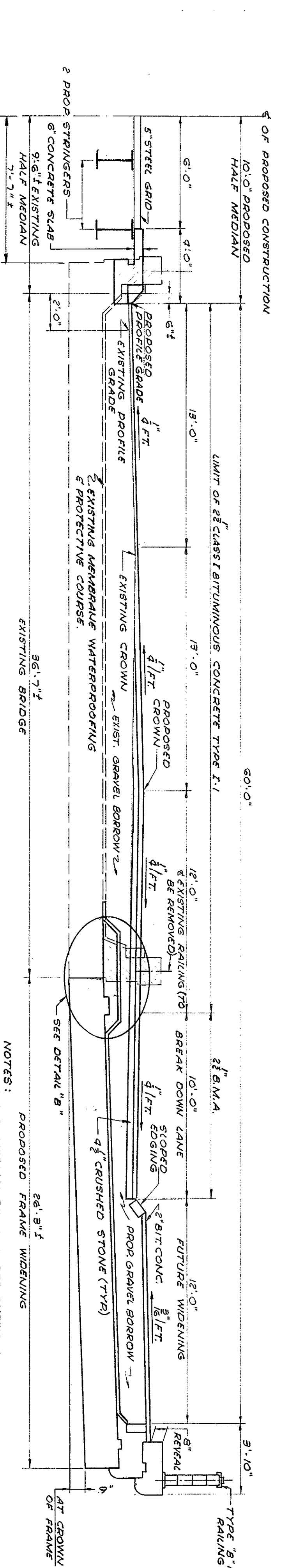
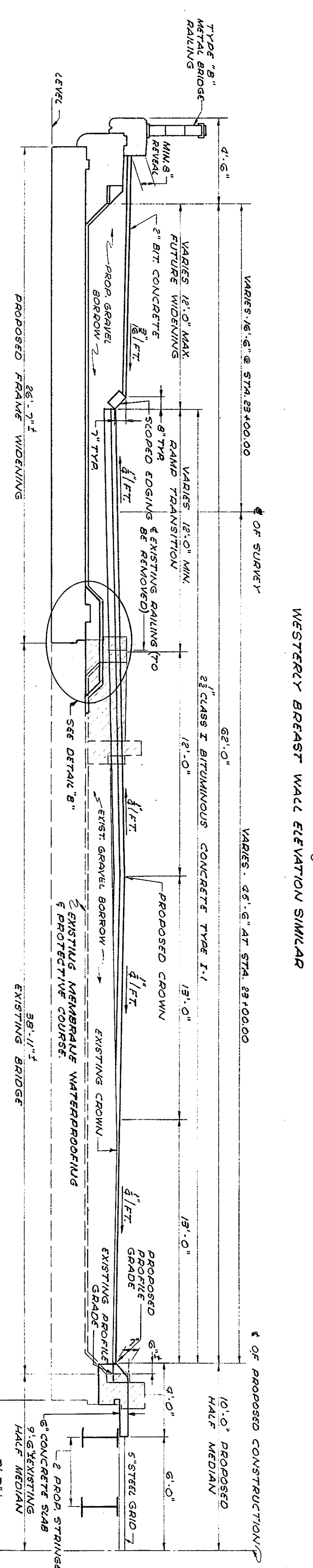
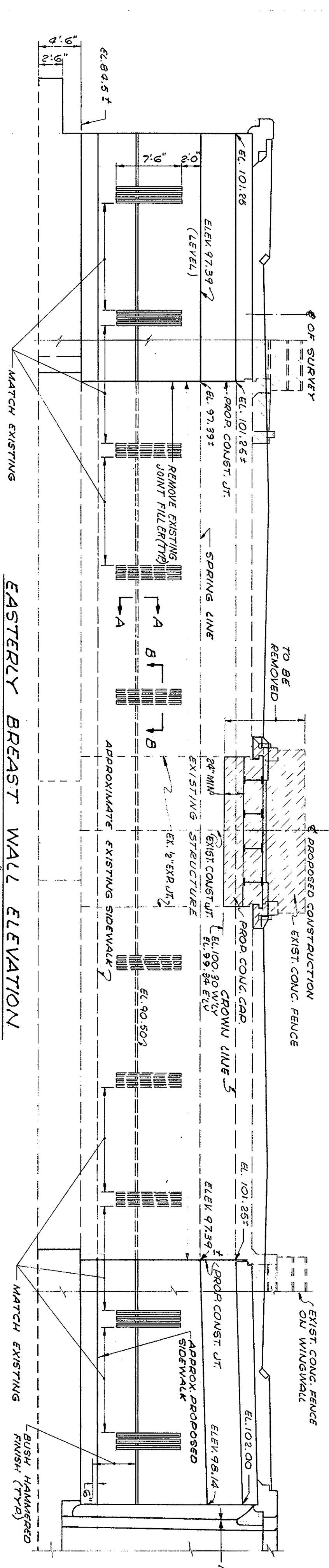
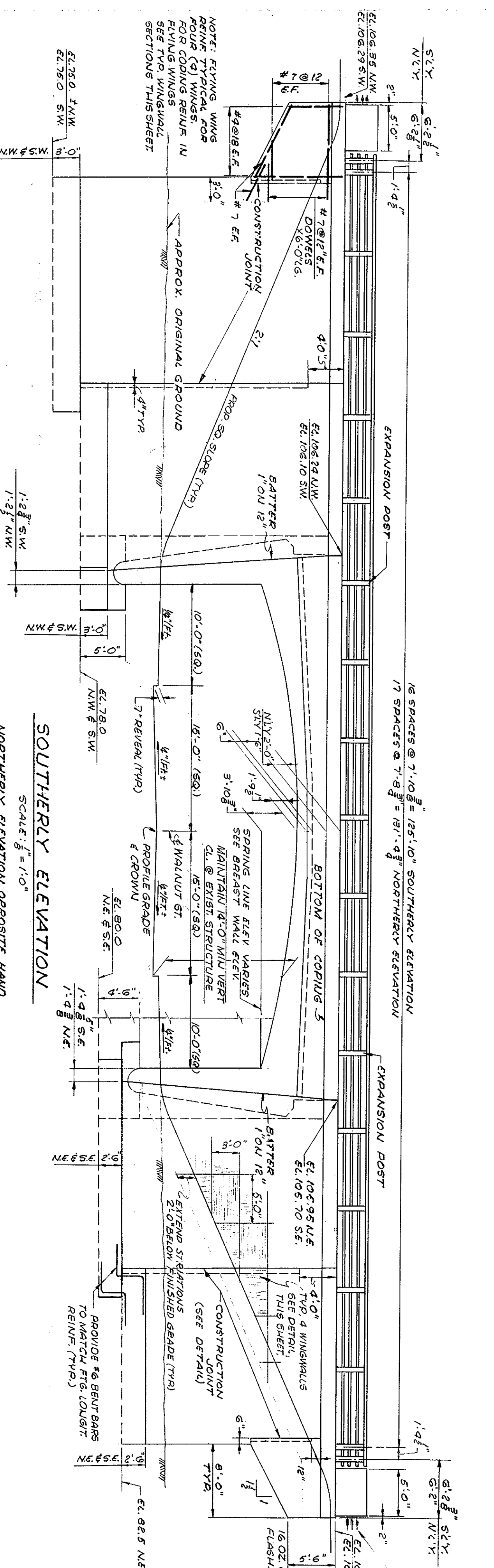
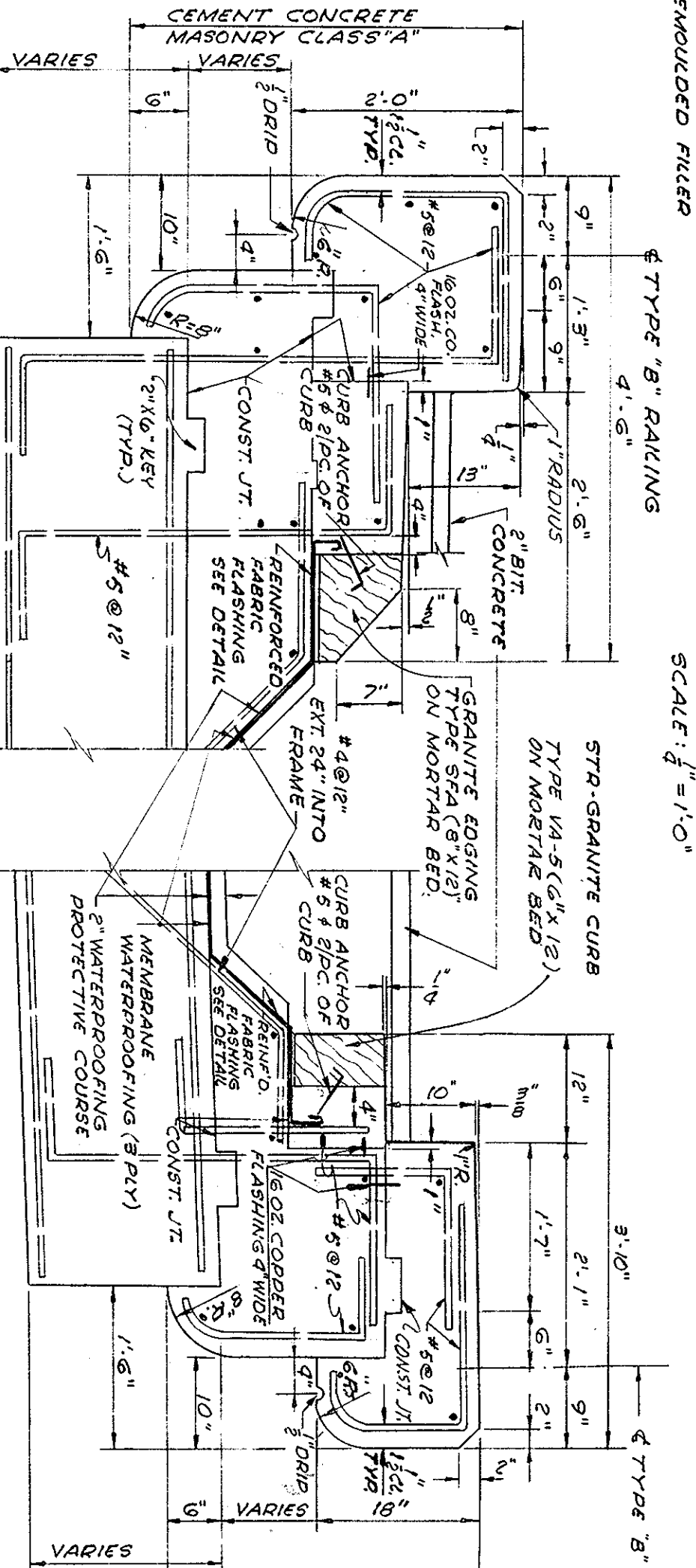
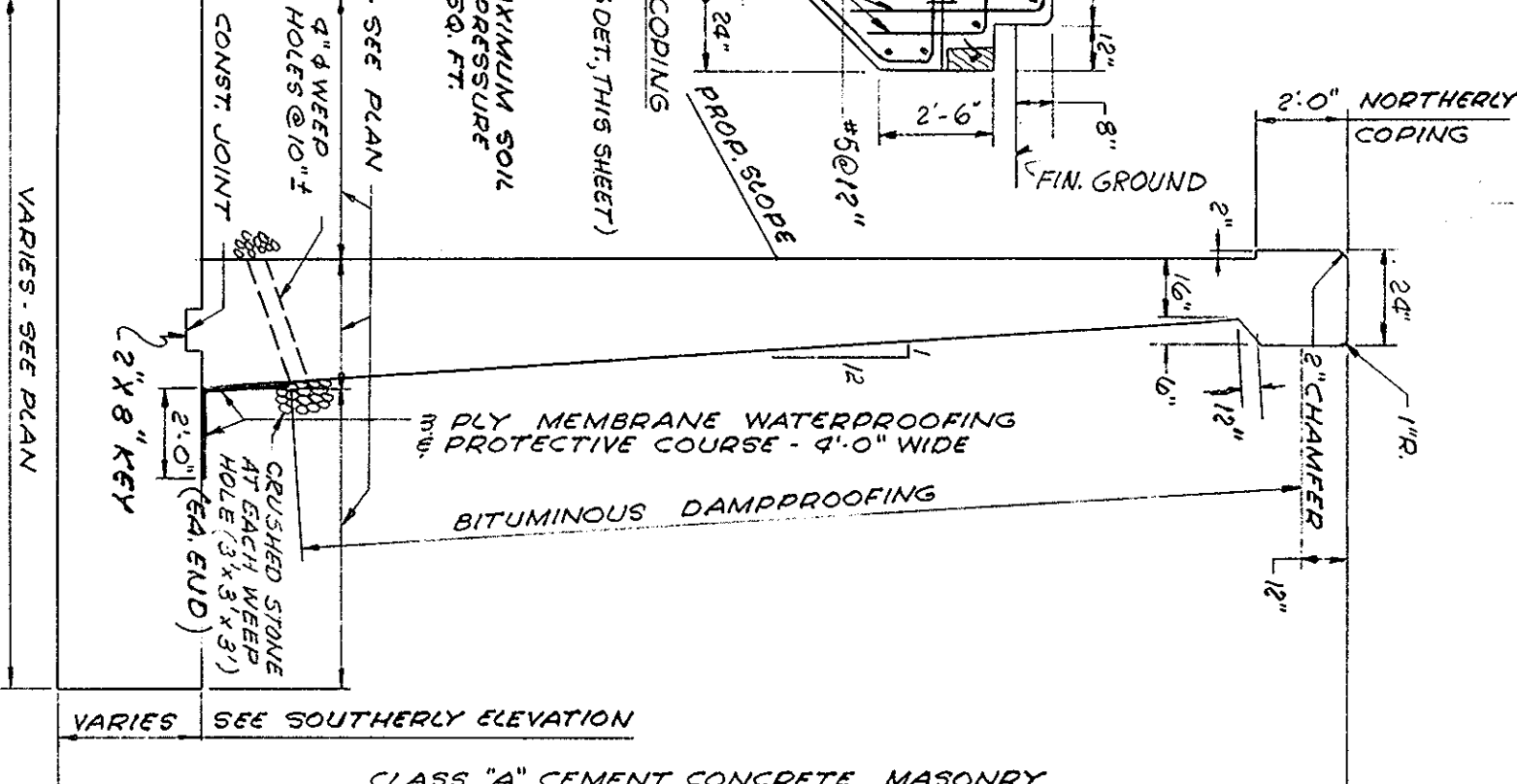
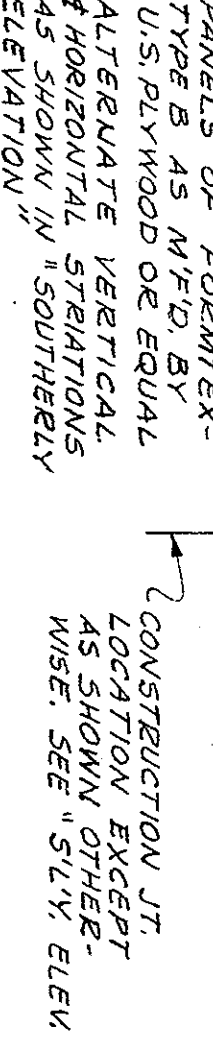
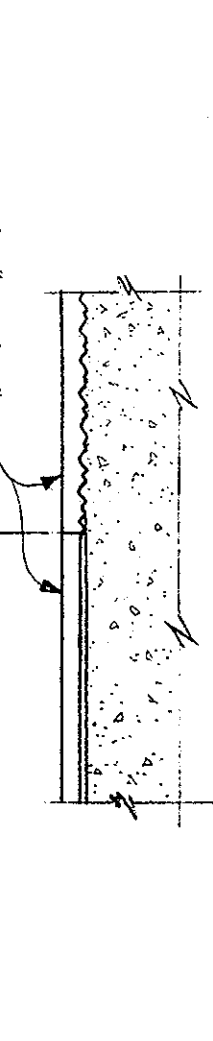
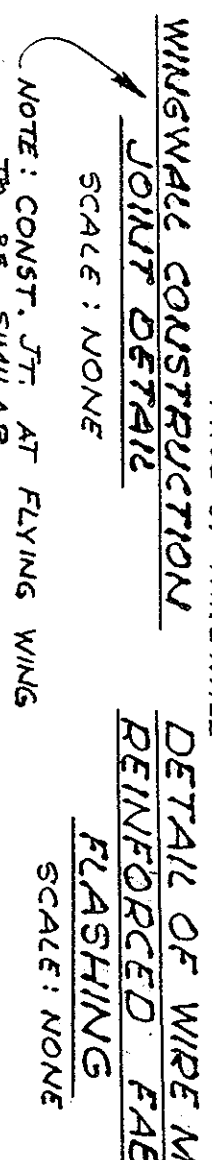
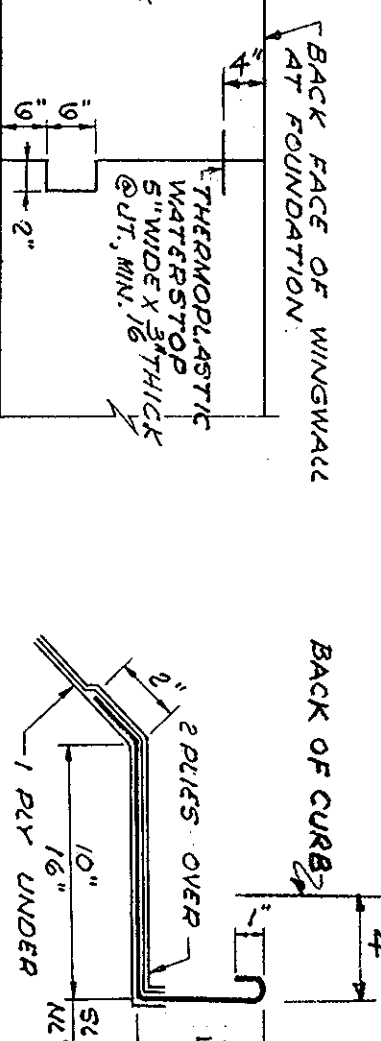
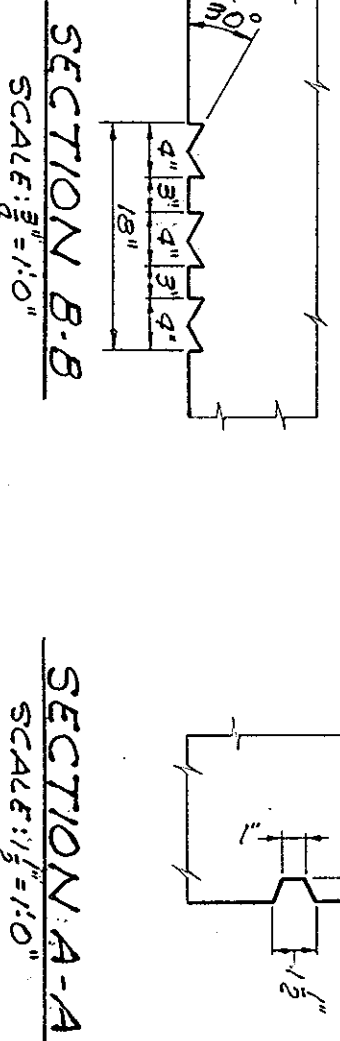
SCALE: 8"=1'-0"

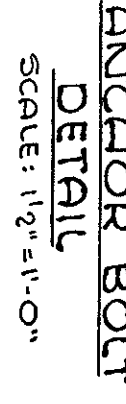
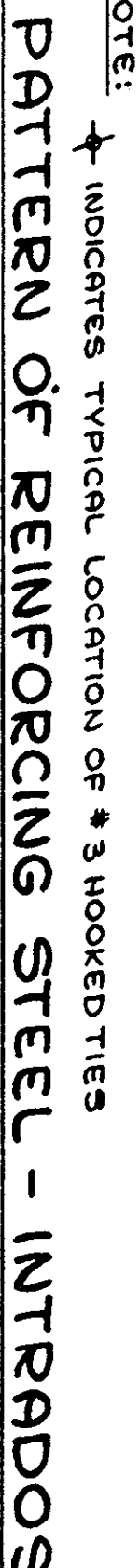
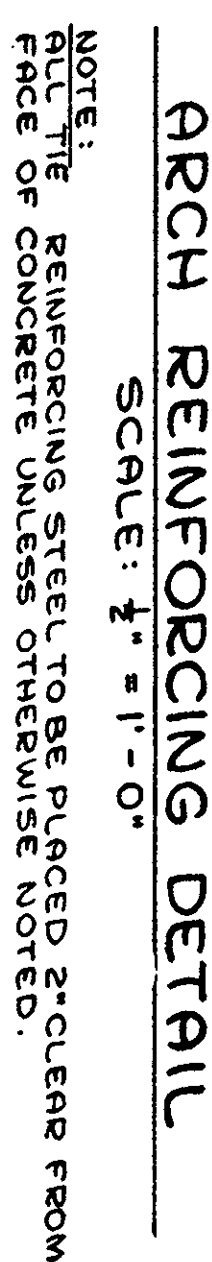
FEB 20 1960	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION
	USE ONLY PRINTS OF LATEST DATE

FILE NO.	STATE	FEDERAL AID	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	MASS	U212 (41)	59	171	

WINGWALL REINFORCEMENT SCHEDULE					
SECTION I	SECTION II	SECTION III	SECTION IV	SECTION V	SECTION VI
BAR A	#1 @ 9"	#1 @ 12"	#1 @ 12"	#1 @ 12"	#1 @ 12"
BAR B	#3 @ 9"	#5 @ 12"	#5 @ 12"	#5 @ 12"	#5 @ 12"
BAR C	#1 @ 9"	#1 @ 12"	#1 @ 12"	#1 @ 12"	#1 @ 12"
BAR D	#1 @ 12"	#1 @ 12"	#1 @ 12"	#1 @ 12"	#1 @ 12"
BAR E	#1 @ 9"	#1 @ 12"	#1 @ 12"	#1 @ 12"	#1 @ 12"
BAR F	#1 @ 9"	#1 @ 12"	#1 @ 12"	#1 @ 12"	#1 @ 12"
BAR G	#1 @ 9"	#1 @ 12"	#1 @ 12"	#1 @ 12"	#1 @ 12"
BAR H	#1 @ 9"	#1 @ 12"	#1 @ 12"	#1 @ 12"	#1 @ 12"
BAR I	#1 @ 9"	#1 @ 12"	#1 @ 12"	#1 @ 12"	#1 @ 12"
BAR J	#1 @ 9"	#1 @ 12"	#1 @ 12"	#1 @ 12"	#1 @ 12"
BAR K	#1 @ 9"	#1 @ 12"	#1 @ 12"	#1 @ 12"	#1 @ 12"
BAR L	#1 @ 9"	#1 @ 12"	#1 @ 12"	#1 @ 12"	#1 @ 12"
BAR M	#1 @ 9"	#1 @ 12"	#1 @ 12"	#1 @ 12"	#1 @ 12"

NOTE: FOR LOCATION OF SECTIONS I THRU IX, SEE PLAN, SHEET 2.

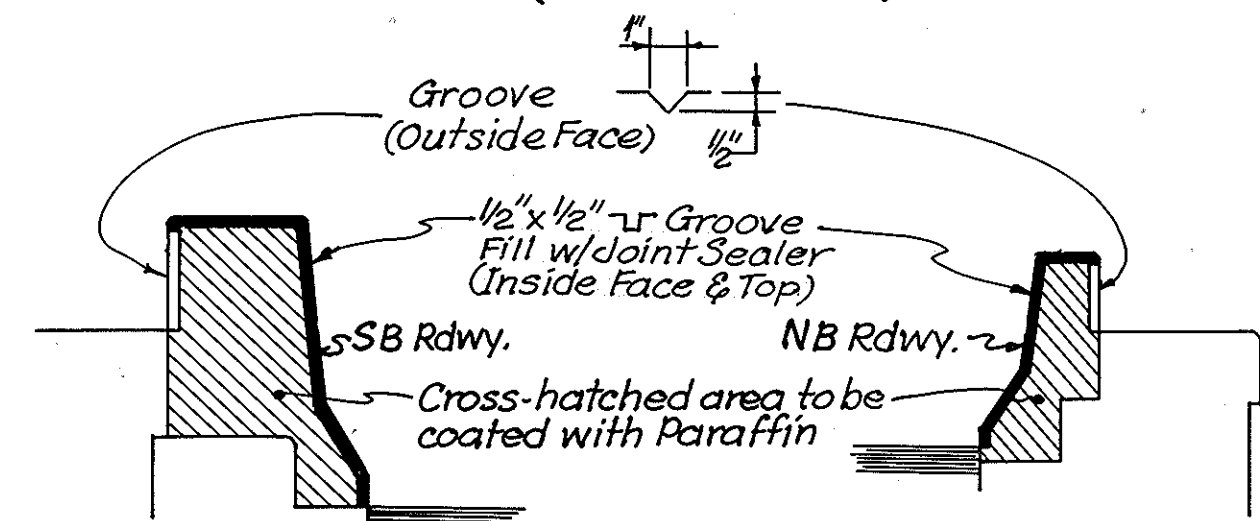
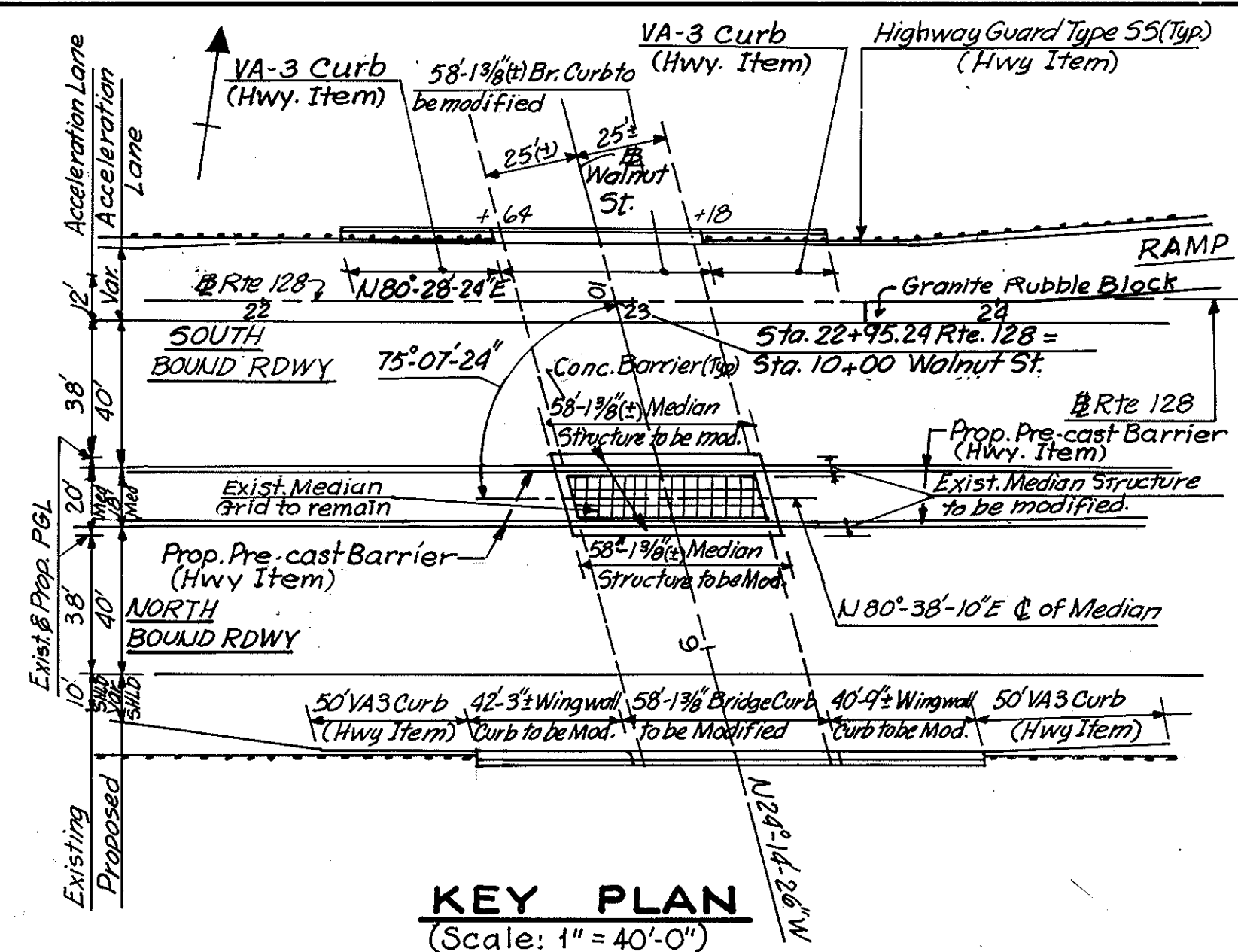




NOTES:

- 1) ALL MATERIAL FOR RAILING TO BE STRUCTURAL GRADE STEEL.
- 2) ALL POSTS TO BE PLUMB.
- 3) PROVIDE 1 1/2" SLOTTED HOLES IN POST CAPSULATE 4 RAIL MOUNTING PLATES AT EXPANSION POST ONLY. FOR EXPANSION POST LOCATIONS SEE SHEET NO.3

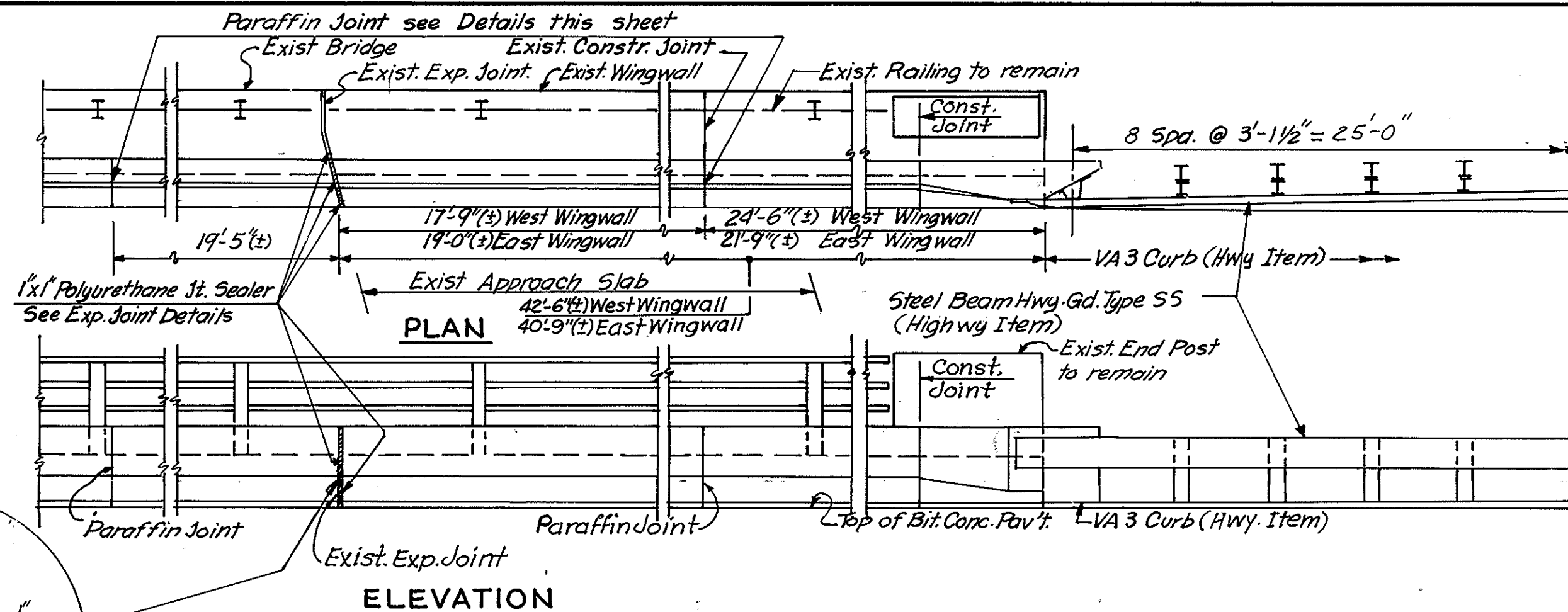




- Notes: 1. All concrete construction shall be poured in alternate sections & shall have a curing period of not less than 3 days between pours.
 2. End of bars shall be 2" clear of the Paraffin Joint.
 3. Do not carry reinf. steel through the Paraffin Joint.
 4. Joint to be square to the face of curb or edging.
 5. Joint Sealer to be same color as concrete.

PARAFFIN JOINT DETAIL

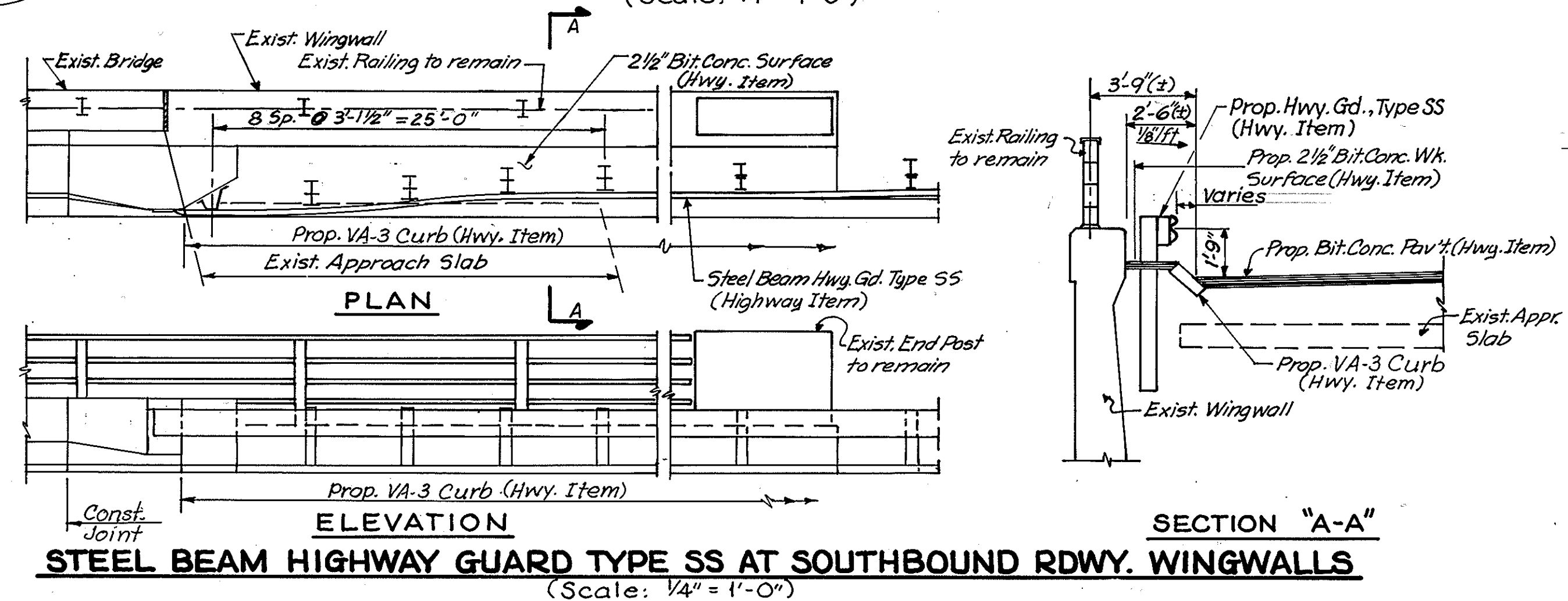
(Not to Scale)



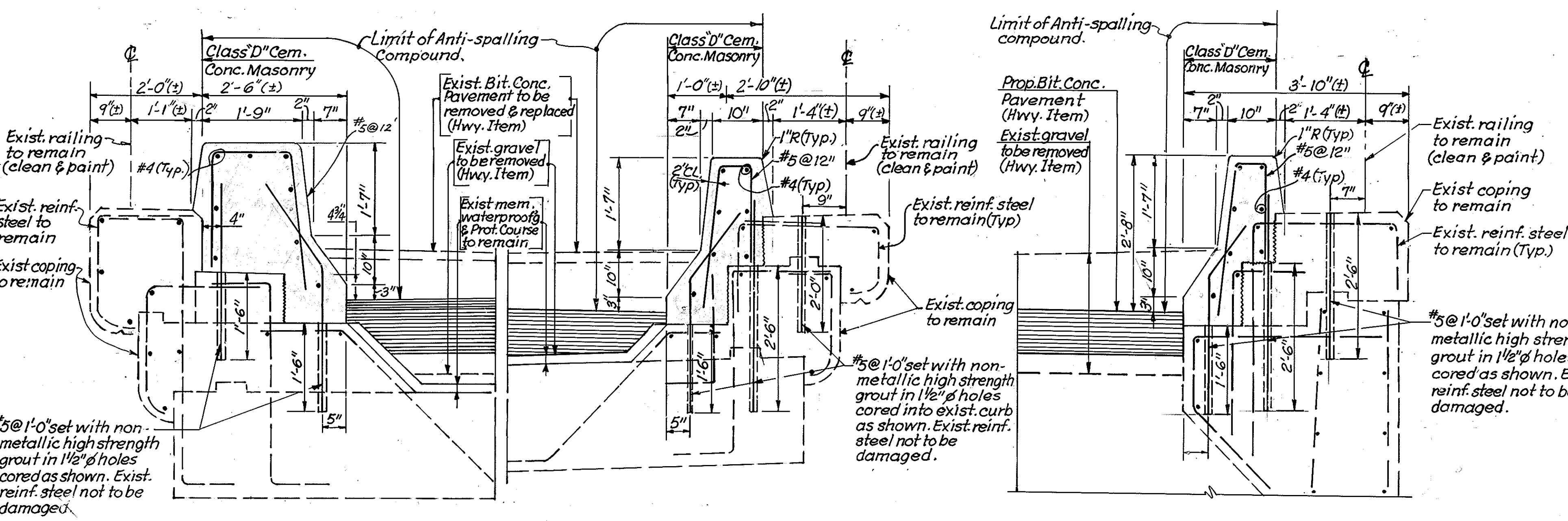
Note: West Wingwall Curb Details are shown East Wingwall Curb Details are similar except opposite hand.

BRIDGE AND WINGWALL CURB MODIFICATIONS AT NORTHBOUND RDWY.

(Scale: 1/4" = 1'-0")



- GENERAL NOTES:
- New Concrete is to be bonded to all existing concrete surfaces with Epoxy Bonding Compound unless otherwise noted.
 - All coring shall be done with rotary drills. No percussion drilling will be allowed.



LYNNFIELD NORTHERN CIRCUMFERENTIAL HIGHWAY					
PUB. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	MASS.	FI-75-2(04)53		198	408

GENERAL NOTES

DESIGN:
 In accordance with A.A.S.H.T.O. Specifications 1977 Edition with 1978 addenda for H20-44 Loading.

BENCH MARK:
 Sta. 13+30 92' Rt. Walnut St. Baseline a cut in ledge
 El. 98.75, Datum 1929 USC & G.S. Mean Sea Level = 0.0

DIMENSIONS:
 All dimensions and details shown for the Exist. Structure shall be checked in the Field by the Contractor and adjustment shall be made for any discrepancies noted prior to the submission and approval of the Shop Drawings. For use as a guide, copies of the original bridge construction plans are available at the Mass. D.P.W. Bridge Section, 100, Nashua Street, Boston, Mass.

CHAMFER:
 All exposed corners of new concrete shall be chamfered 3/4" x 3/4", unless otherwise shown.

REINFORCING:
 All reinforcing steel shall conform to the requirements of ASTM A-615 Grade 60. Unless otherwise shown on plans, all #4 bars shall be lapped 20" and all #5 bars shall be lapped 26". For horizontal bars with 12" or more of concrete below the bar the lap lengths shall be 29" for #4 bars and 36" for #5 bars. If the above bars are spaced 6" or more on center, the lap length shall be 80% of the lap length given above. All other bars shall be lapped as shown on the plans.

ANCHOR BOLTS:
 All anchor bolts are to be set by template and placed before the concrete is poured.

ANTI-SPALLING COMPOUND:
 As shown on Plan

SCALES:
 Scales noted on plans are not applicable to reduced size prints. Divide by 2 for 1/4" size prints. (11" x 18")

SUMMARY OF BRIDGE QUANTITIES		
DESCRIPTION	QTY.	UNIT
REINFORCED CONC. EXCAVATION	35	C.Y.
BRIDGE PAVEMENT EXCAVATION	26	S.Y.
CLASS I DENSE PROT. (BOT.) COURSE FOR BRIDGES	5	TON
CURB REMOVED & STACKED	140	L.F.
EDGING REMOVED & STACKED	175	L.F.
CLASS D CEM. CONC. MASONRY	68	C.Y.
STEEL REINF. FOR STRUCTURES	8,100	L.B.
DRILLING DOWEL HOLES	1,230	L.F.
LINSEED ANTI-SPALLING COMPOUND	140	S.Y.
EPOXY BONDING COMPOUND	1,250	S.F.
EPOXY MORTAR FOR PATCHING	50	L.B.
MEMBRANE WATERPROOFING	80	S.Y.
METAL BRIDGE RAILING (Clean & Paint)	260	L.F.

OCT. 13, 1979 ISSUED FOR CONSTRUCTION

THE COMMONWEALTH OF MASSACHUSETTS
 PROPOSED BRIDGE MODIFICATIONS

LYNNFIELD
 ROUTE 128 OVER
 WALNUT STREET

SCALES AS NOTED

OFFICE OF
 DEPARTMENT OF PUBLIC WORKS
 100 NASHUA ST. BOSTON, MASS.

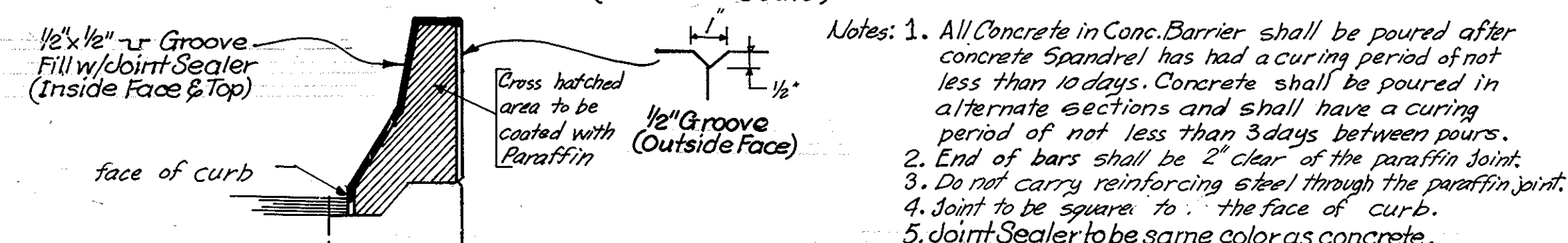
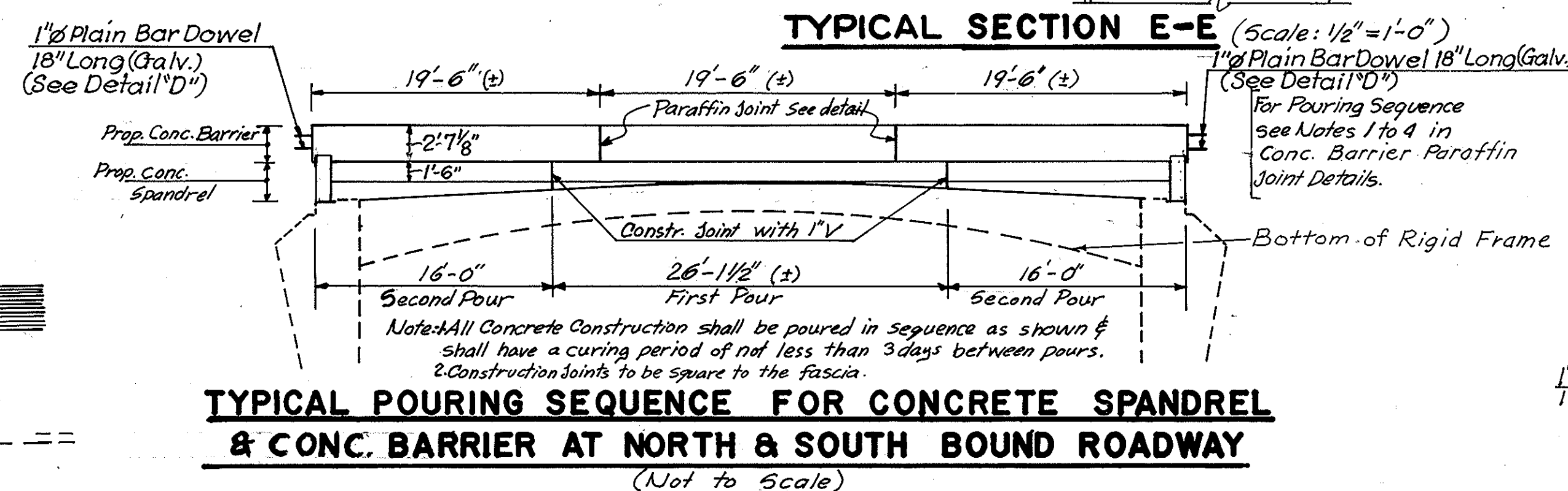
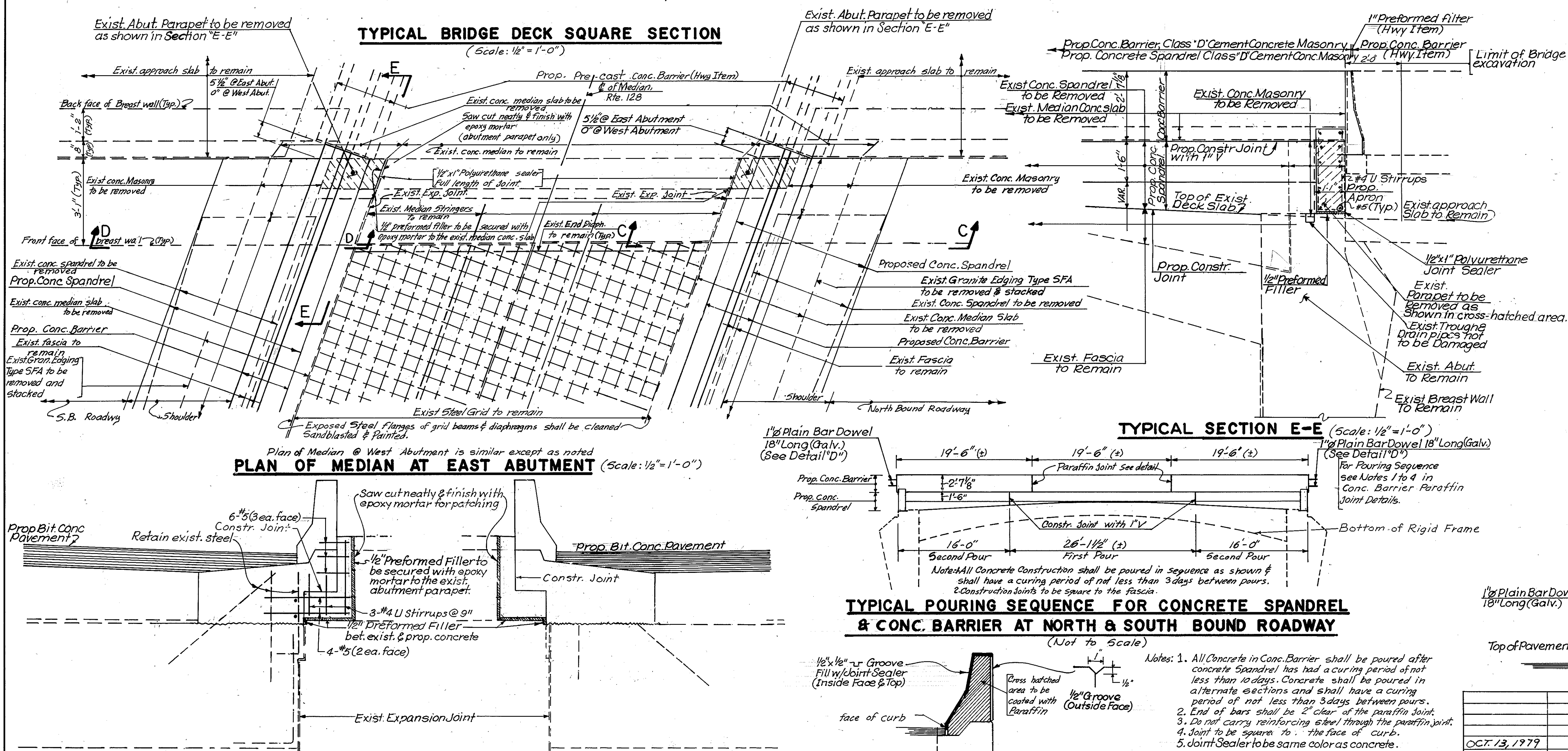
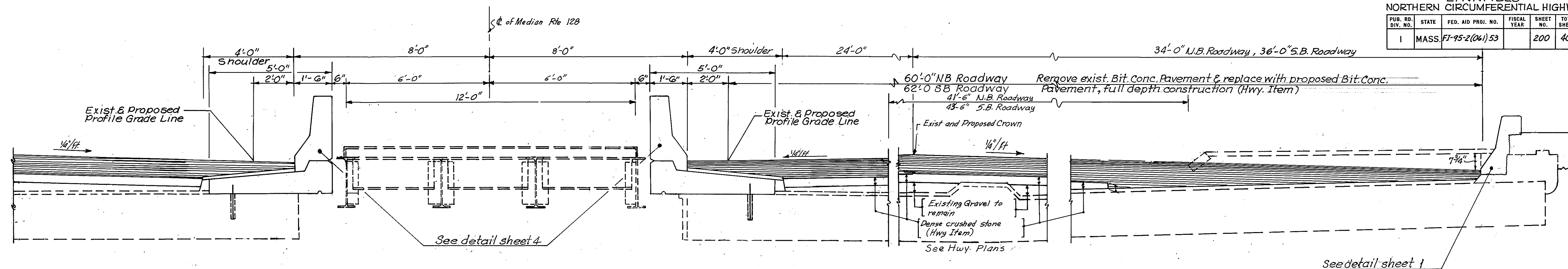
L. J. O'Hara, P.E.
 (BRIDGE ENGINEER)

William R. Park, P.E.
 CHIEF ENGINEER

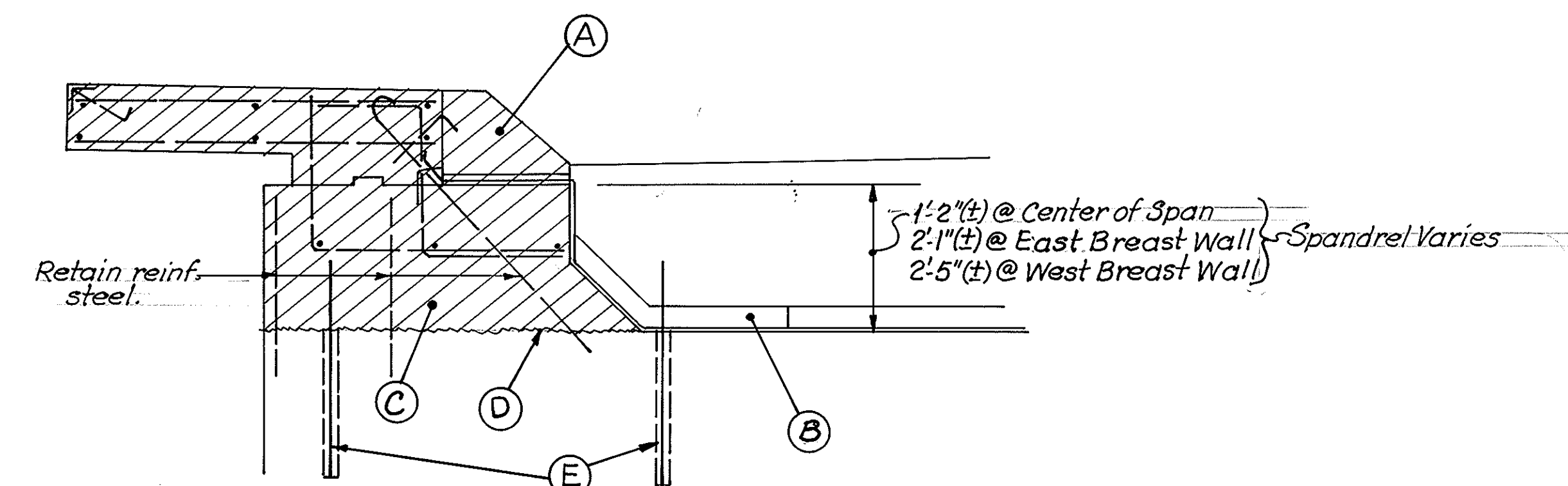
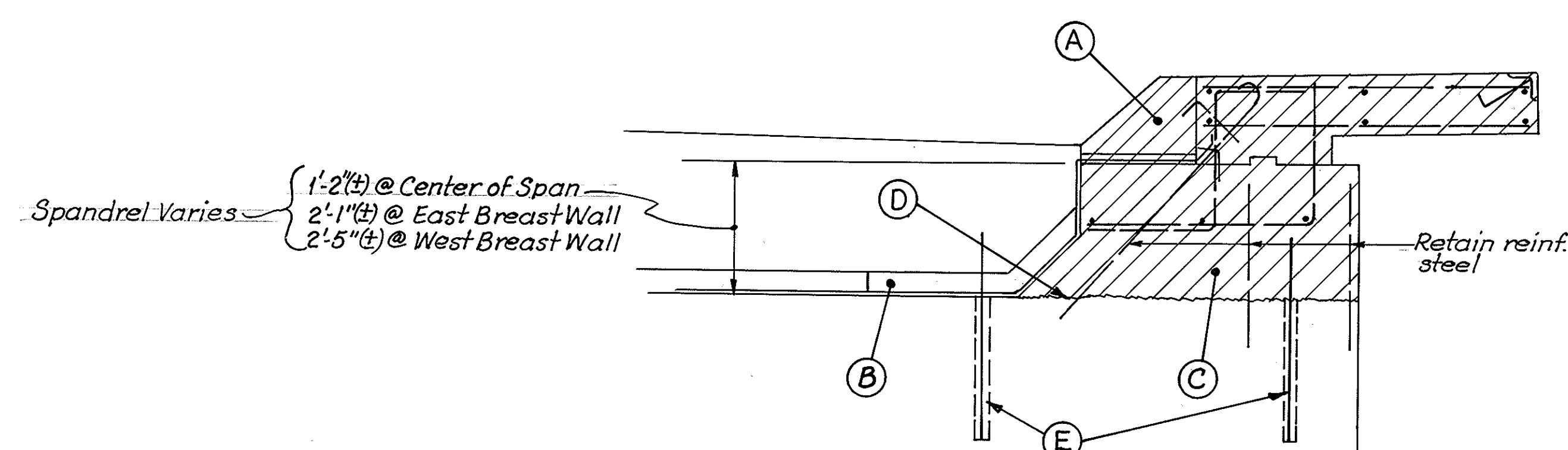
PREPARED BY:
 LOUIS BERGER & ASSOCIATES, INC.
 WELLESLEY, MASS.



PUB. RD. DIV. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEET
1	MASS.	FJ-95-2(061) 53		200	408



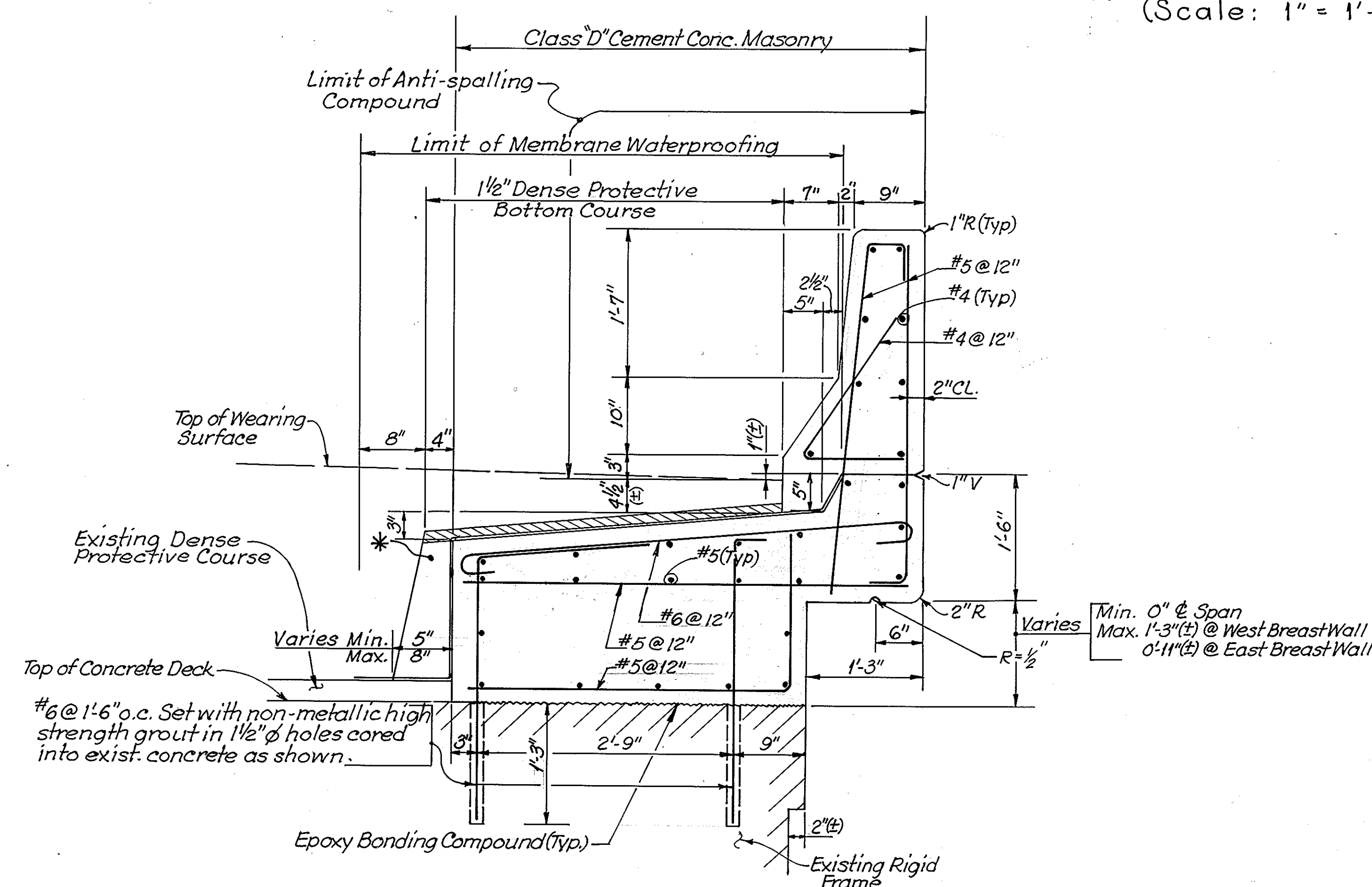
- (A) Remove & Stack existing SFA edging.
- (B) Remove existing Protective Course & Membrane Waterproofing. (Bridge Pav't. Exc.).
- (C) Remove existing reinforced concrete & curb. Retain existing reinf. steel & incorporate into the proposed modification as shown on the plans.
- (D) Existing concrete surface to be artificially roughened.
- (E) Core holes & insert tie dowels in non-shrink grout.



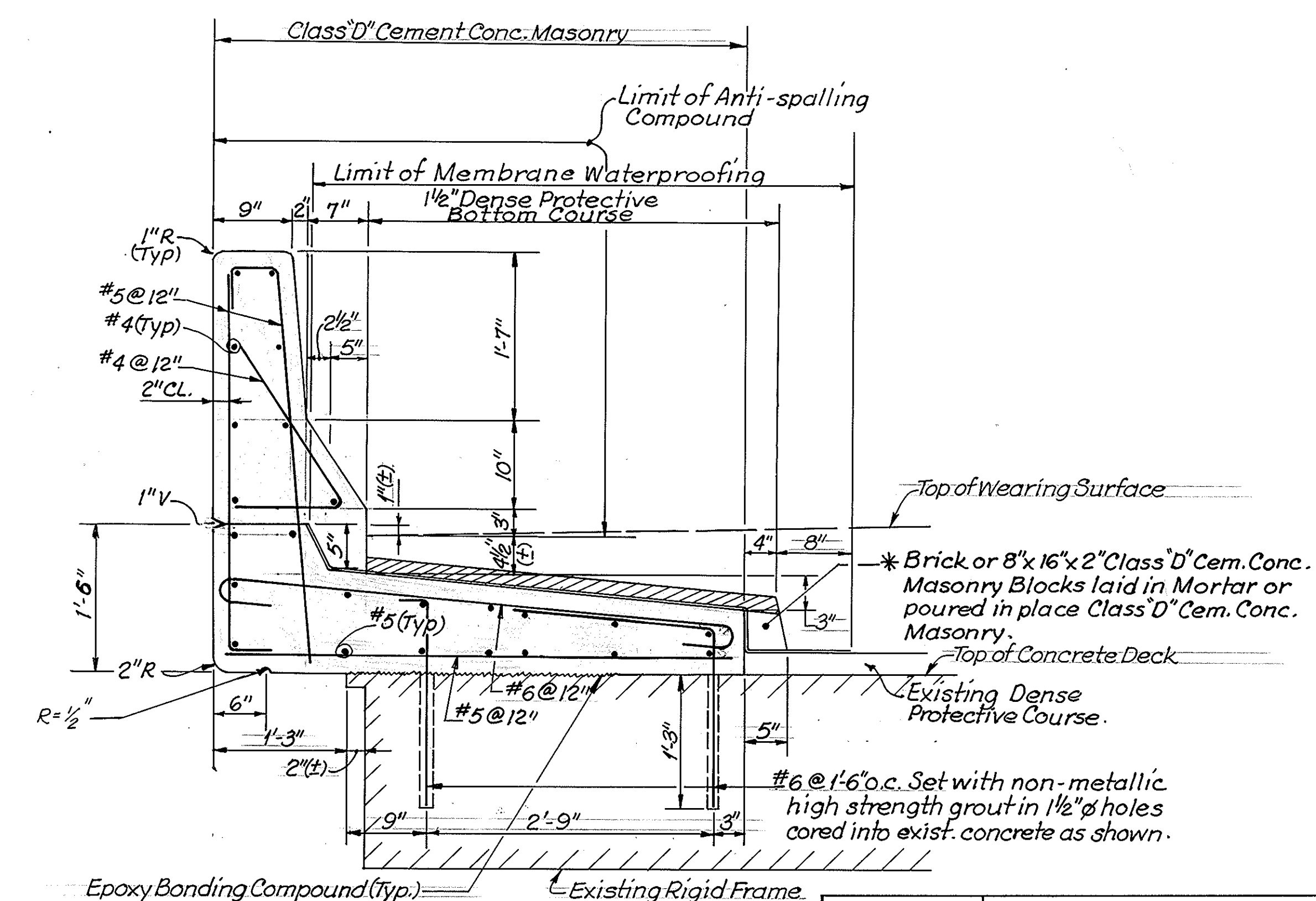
M E D I A N

SEQUENCE OF CONSTRUCTION OPERATIONS

(Scale: 1" = 1'-0")



AT BREAST WALLS



AT C OF SPAN

MEDIAN MODIFICATION DETAILS

(Scale: 1" = 1'-0")

OCT. 13, 1979		ISSUED FOR CONSTRUCTION	
DATE		DESCRIPTION	
		USE ONLY PRINTS OF LATEST DATE	

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
9	MASS.	272-F	1939	35	132

GENERAL NOTES

- DESIGN**
 ACCORDING TO SPECIFICATIONS OF THE AMERICAN ASSOCIATION OF STATE HIGHWAY OFFICIALS 1935 ED. FOR H-20 LOADING.
- DATE AND SEAL**
 TO BE PLACED IN CENTER OF INSIDE FACE OF NORTHEASTERLY AND SOUTHWESTERLY END POSTS. FOR SIZE AND CHARACTER OF NUMERALS, SEE DETAILS ON ANOTHER SHEET.
- FOUNDATIONS** : MAY BE ALTERED IF NECESSARY TO SUIT CONDITIONS OF CONSTRUCTION.
- WEEP HOLES** : TO BE PROVIDED IN ABUTMENTS AND WING WALLS WITH INLETS PROTECTED BY BROKEN STONES OR SCREENED GRAVEL AS DIRECTED BY THE ENGINEER.
- BENCH MARK**
 STA. 8+71.215 LT. WALNUT ST. R.R. SPIKE 28' ELM. EL. 91.76
 U.S.C. & G.S. DATUM M.S.L. = 0.0

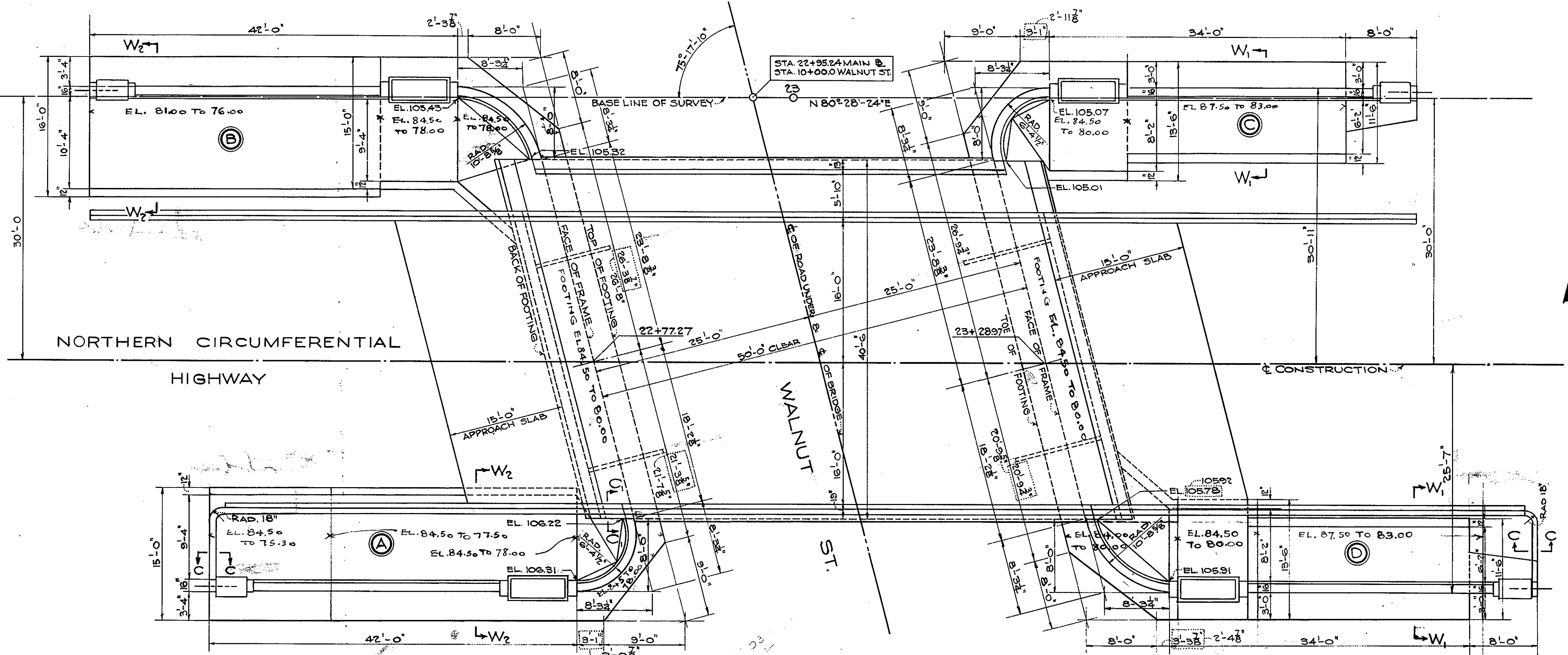
ESTIMATED QUANTITIES

(NOT GUARANTEED)
 FINAL EST. PREL. EST.

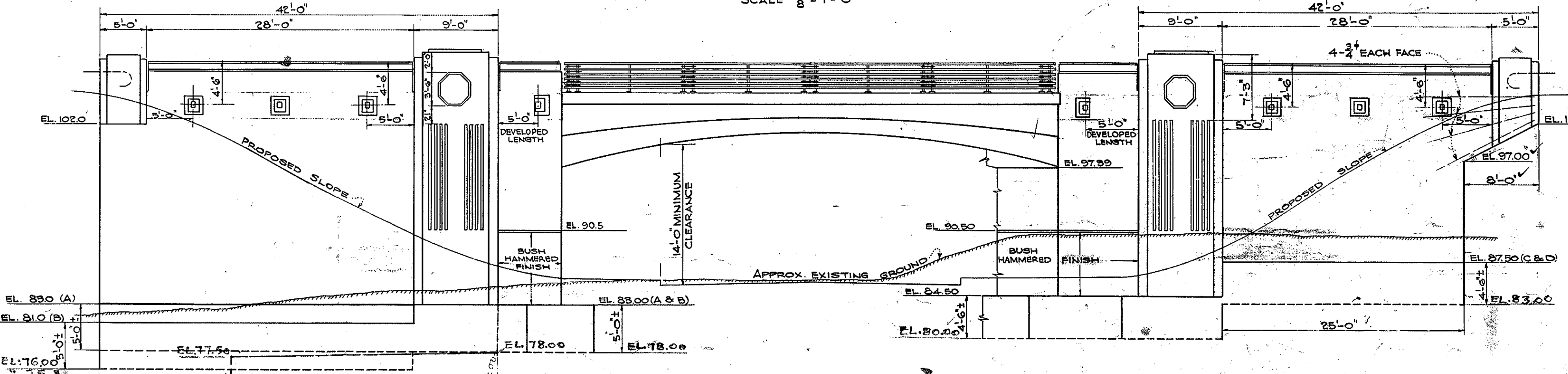
	FINAL EST.	PREL. EST.	
BRIDGE EXCAVATION	148.7	1600	CU. YDS.
TRENCH LEDGE EXCAVATION	4.4	40	CU. YDS.
GRAVEL BORROW	184.4	1320	CU. YDS.
LUMBER SHEETING	0	1	M. FT. B.M.
CEM. CONC. MASONRY - CLASS A	432.9	500	CU. YDS.
CEM. CONC. MASONRY - CLASS B	17.7	18	CU. YDS.
CEM. CONC. MASONRY - CLASS C	1529.4	1400	CU. YDS.
STEEL REIN. FOR STRUCTURES	108342	105000	POUNDS
MEMBRANE WATERPROOFING	310.4	290	SQ. YDS.
BITUMINOUS DAMP-PROOFING	425.4	410	SQ. YDS.
WELDED BRIDGE RAILING	102.4	102	LIN. FT.
BUSH HAMMERED FINISH	620	1100	SQ. FT.
BIT. CONC. WALK SURFACE	30.3	28	SQ. YDS.
GRANITE CURBING - TYPE VA - 6" x 11"	300.4	303	LIN. FT.
6" C.I. WATER PIPE	32.0	52	LIN. FT.
SPECIAL CURING FOR CURBS	560	925	SQ. FT.
ALUMINUM ORNAMENTS	4	4	EACH
STRIPPING GRAVEL PITS	27.7	130	CU. YDS.
CON-TEX FINISH	150	180	SQ. FT.

PLANS POSTED
 DEC. 1943
 CHANGES MADE IN GREEN INK
 B.B. 3802.3838. F.C.B. 1805.1838.
 EVG.

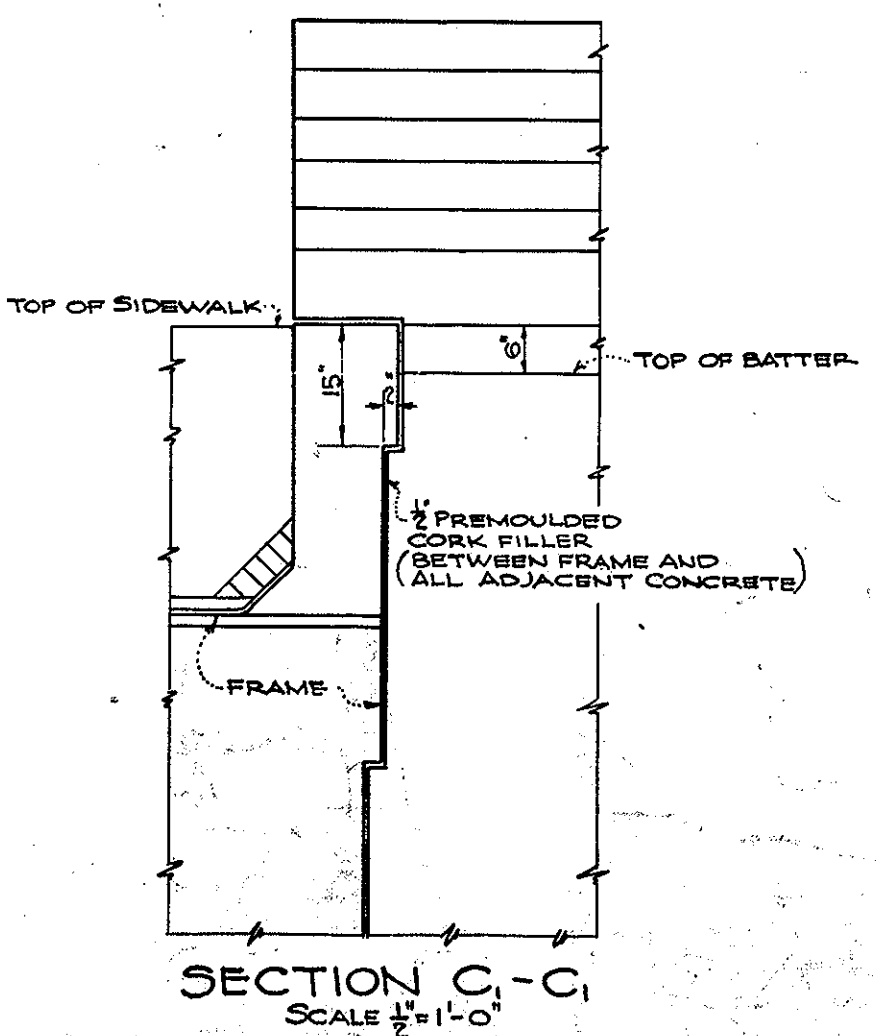
DATE	SHEET NOS.	DESCRIPTION
8-23-40	SHEETS 1-2-3	MISC. REVISIONS AND ADDITIONAL DIMENSIONS AND DETAIL OF ROADWAY COPINGS ADDED SECT. W ₂ -W ₂ AT WINGS B & C SIDEWALK
LIST OF REVISIONS - USE ONLY PRINTS OF LATEST DATE		
THE COMMONWEALTH OF MASSACHUSETTS PROPOSED BRIDGE LYNNFIELD NORTHERN CIRCUMFERENTIAL HIGHWAY-STA. 23+08.37 OVER WALNUT ST. SCALES AS NOTED OFFICE OF DEPARTMENT OF PUBLIC WORKS 100 NASHUA ST. - BOSTON, MASS. APRIL - 1940		
DESIGNED BY	W.A.H.	TRACED BY
W.E.B.	CHECKED BY	L.H.R.
DATE OF ISSUE		
ADVERTISING	CONSTRUCTION	
5-29-40	7-22-40	



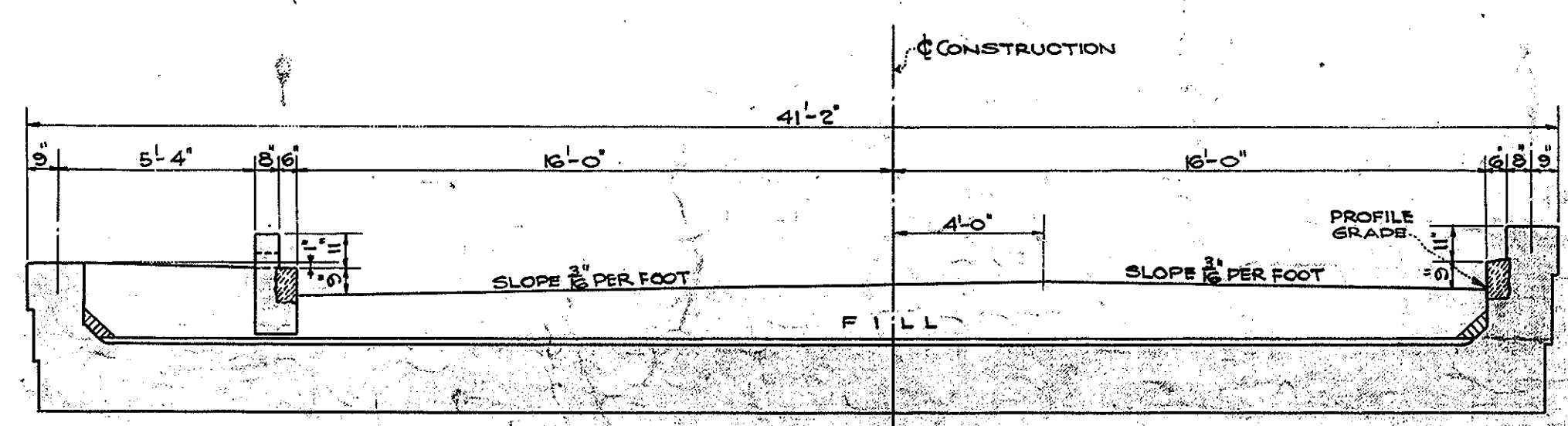
PLAN
 SCALE 1/8" = 1'-0"



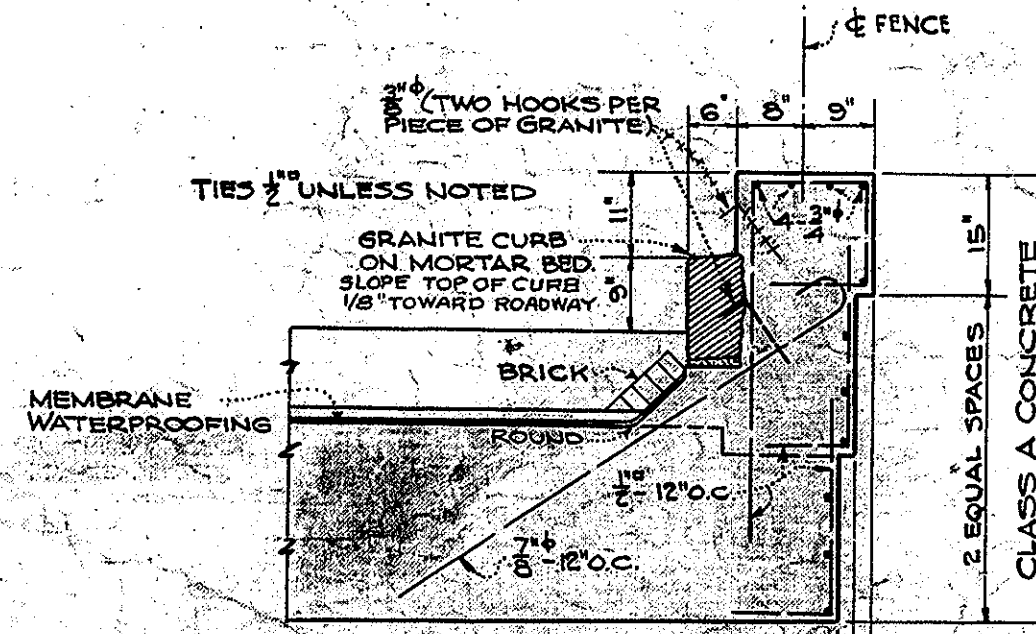
SOUTHERLY ELEVATION
 NORTHERLY ELEVATION OPPOSITE HAND EXCEPT AS SHOWN
 SCALE 1/8" = 1'-0"



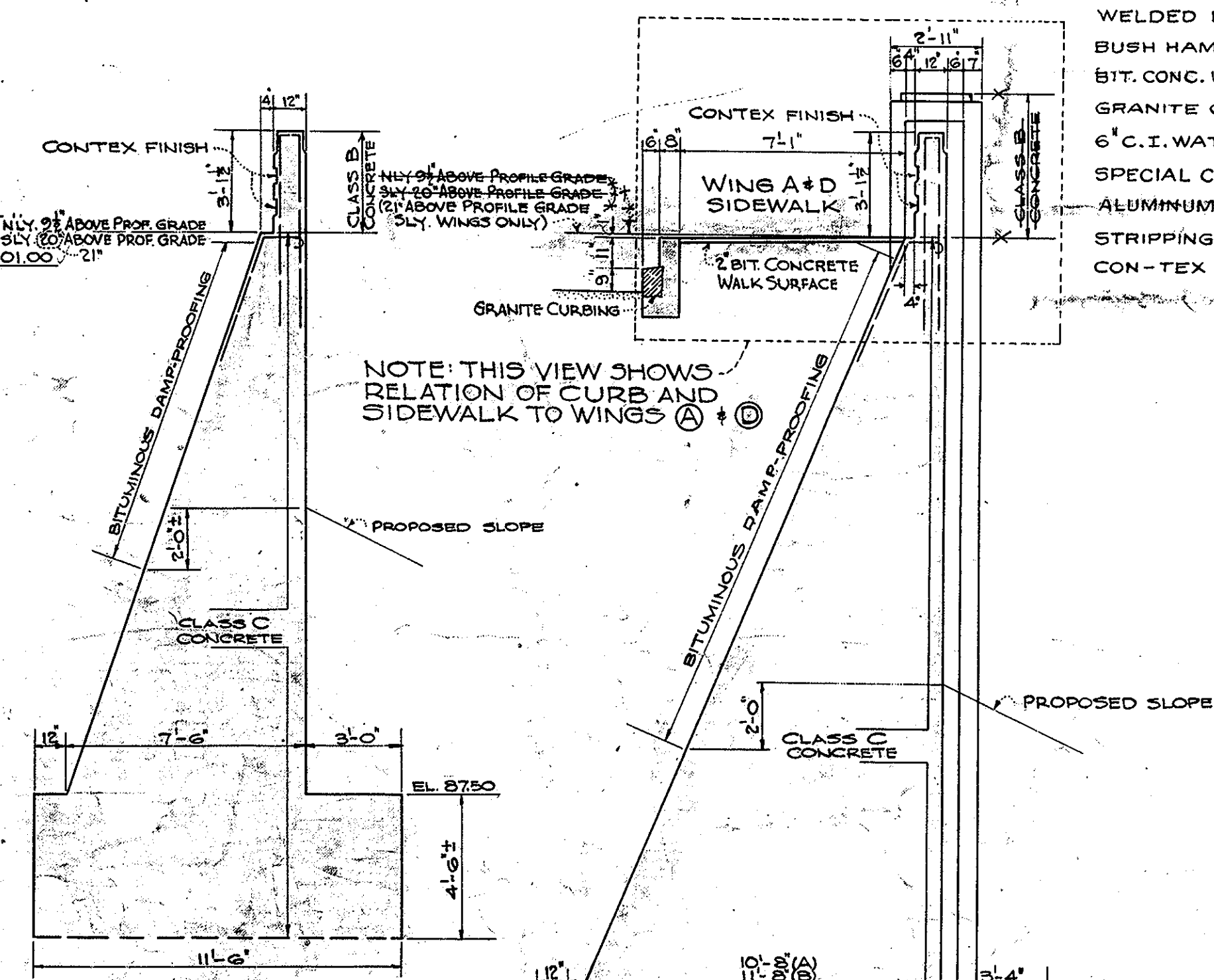
SECTION C-C
 SCALE 1/2" = 1'-0"



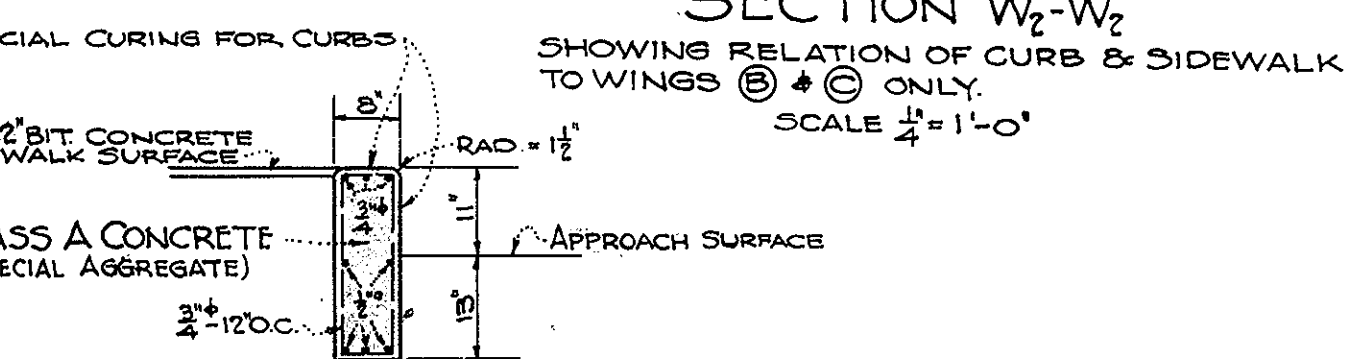
TYPICAL CROSS SECTION
 SCALE 1/2" = 1'-0"



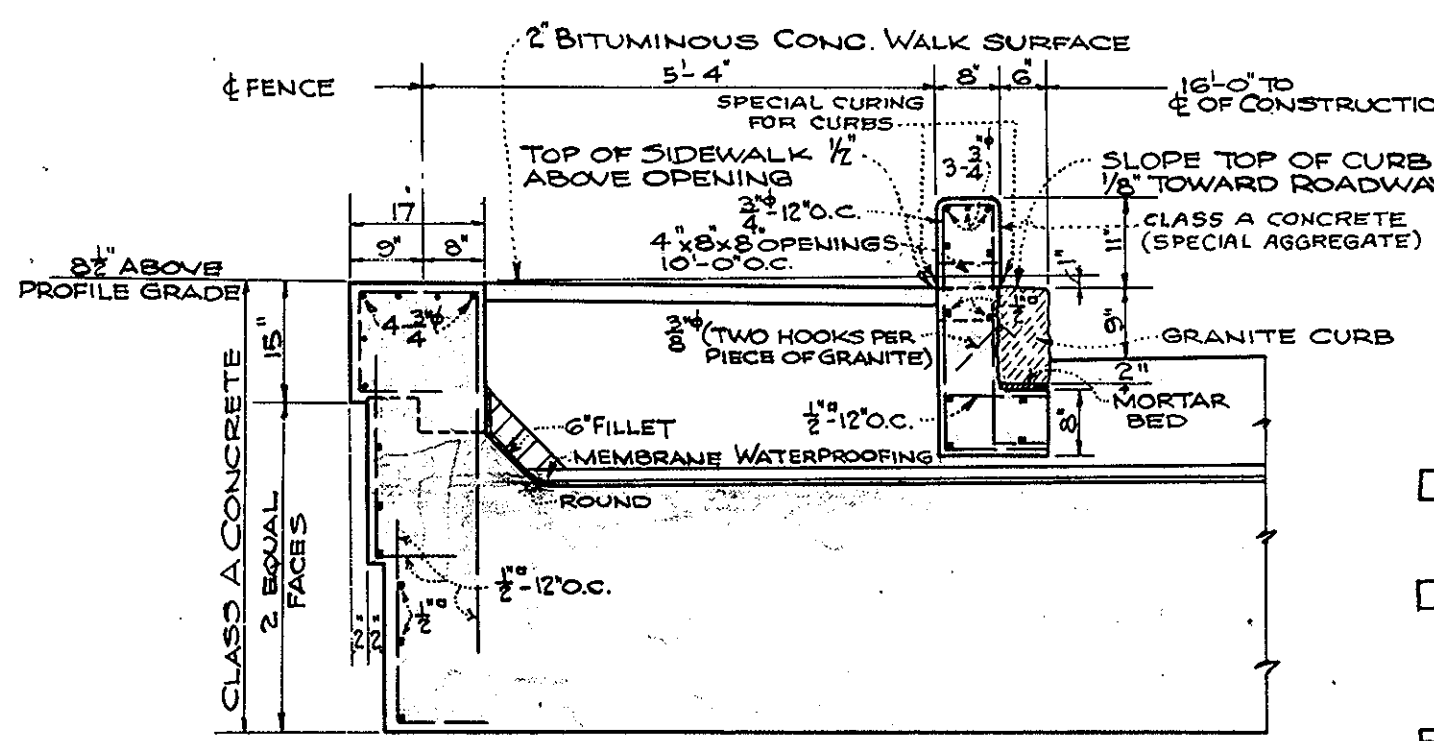
DETAIL OF ROADWAY COPING
 SCALE 1/2" = 1'-0"



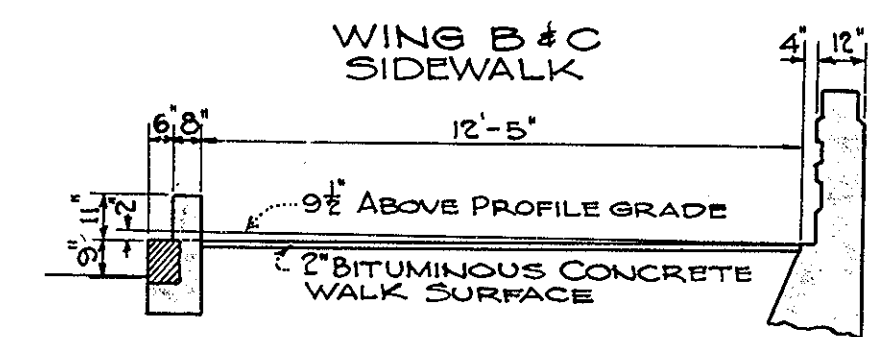
SECTION W₁-W₁
 SCALE 1/2" = 1'-0"
 MAX. FOOTING PRESSURE 2 1/2 TONS PER SQ. FT.



SECTION W₂-W₂
 SCALE 1/2" = 1'-0"



COPING & SIDEWALK DETAIL
 SCALE 1/2" = 1'-0"



WING B & C
 SIDEWALK

SECTION W₂-W₂
 SHOWING RELATION OF CURB & SIDEWALK
 TO WINGS B & C ONLY.
 SCALE 1/2" = 1'-0"

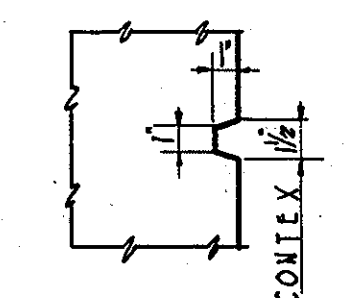
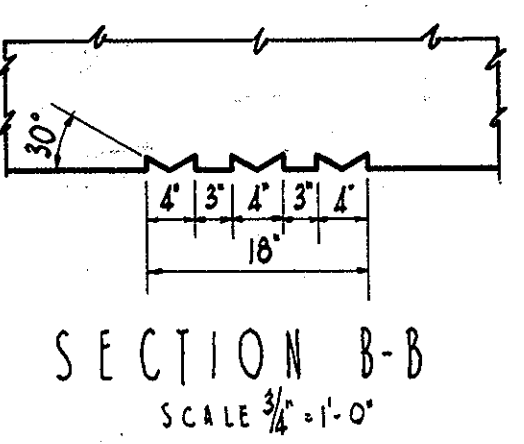
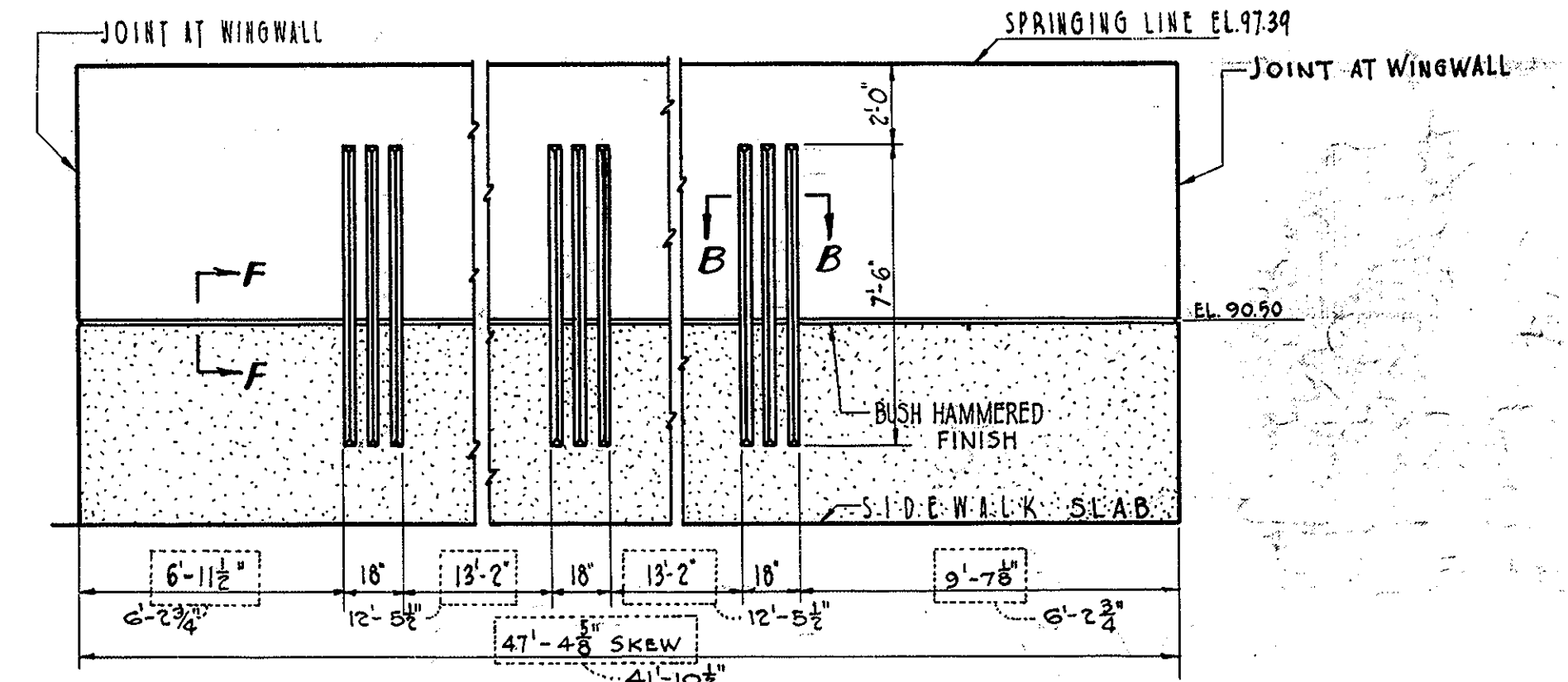
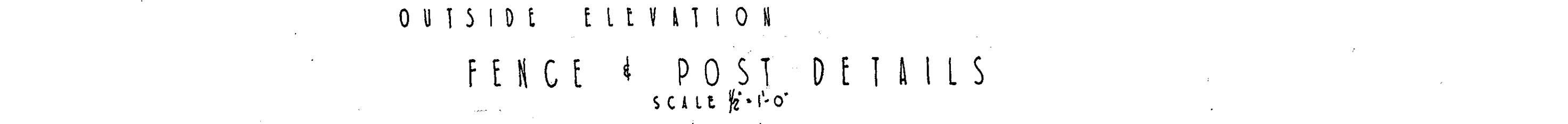
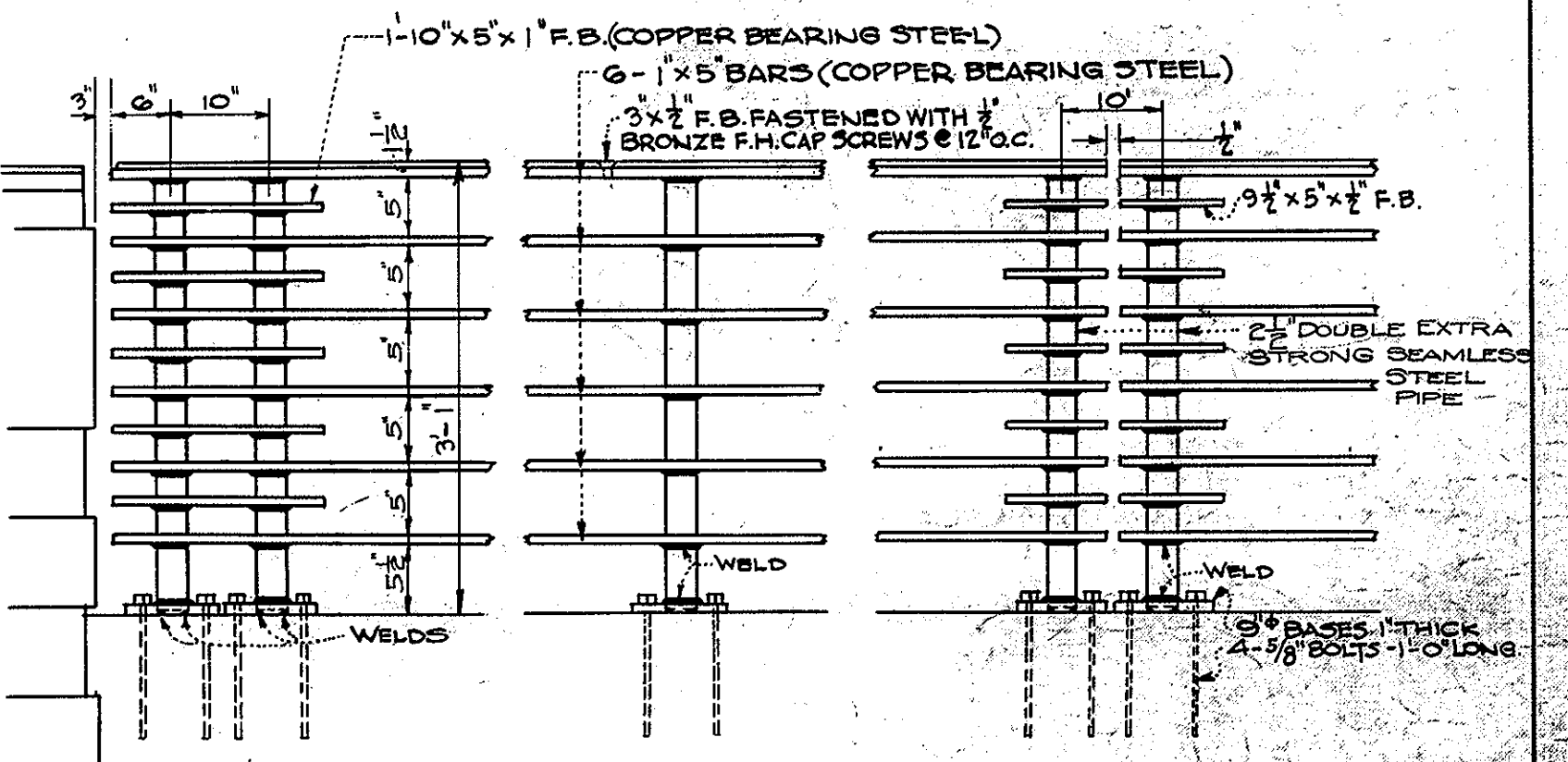
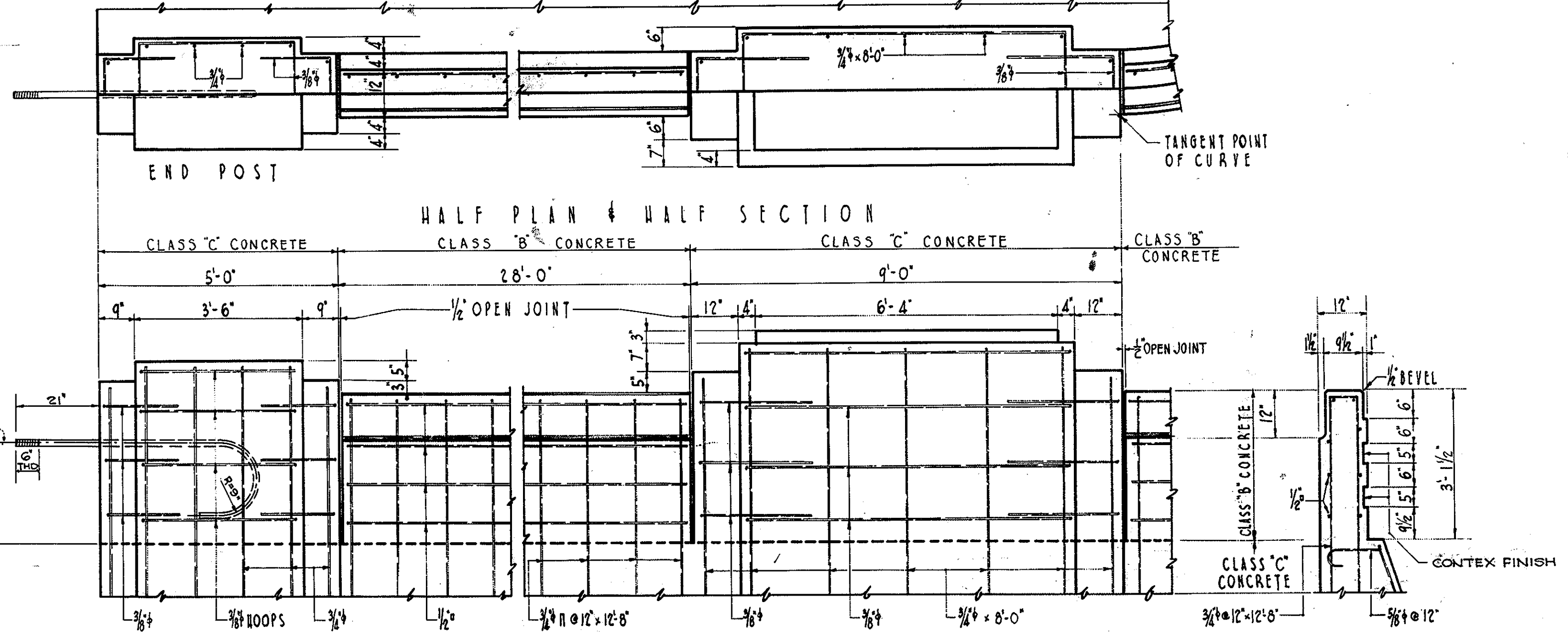
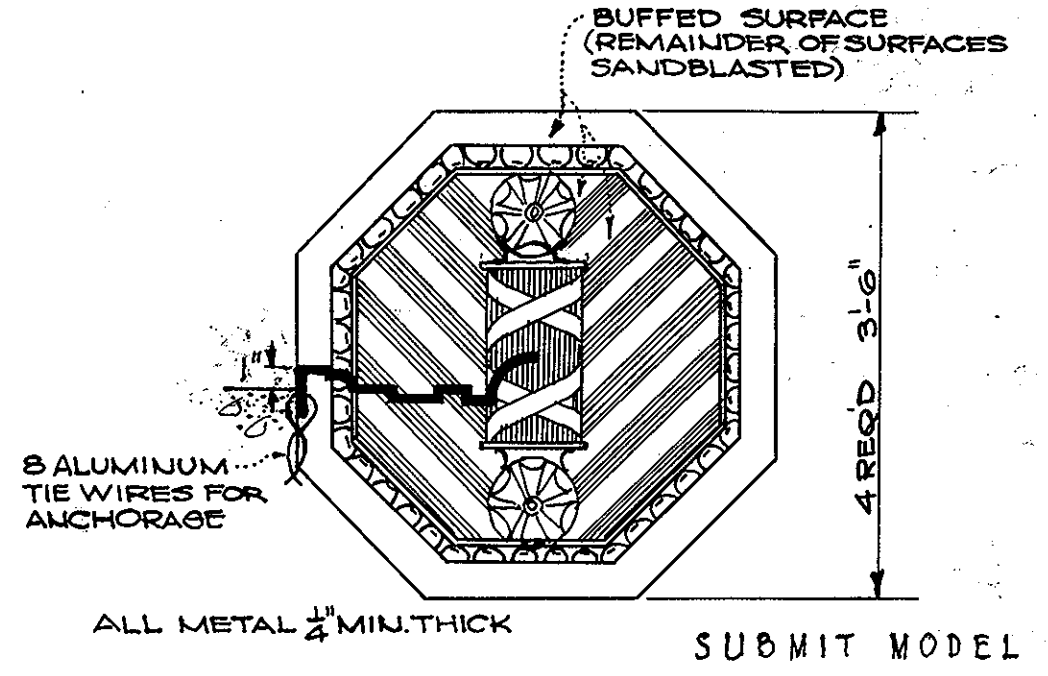
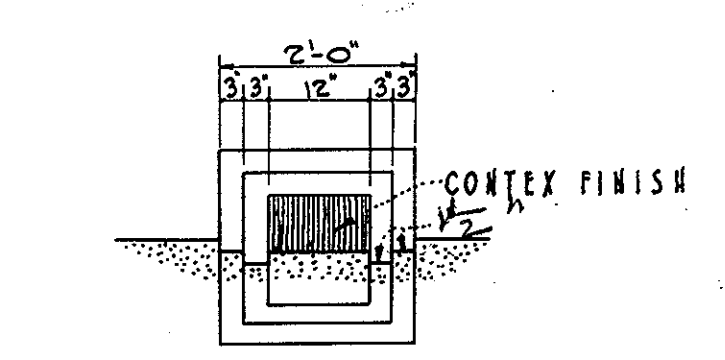
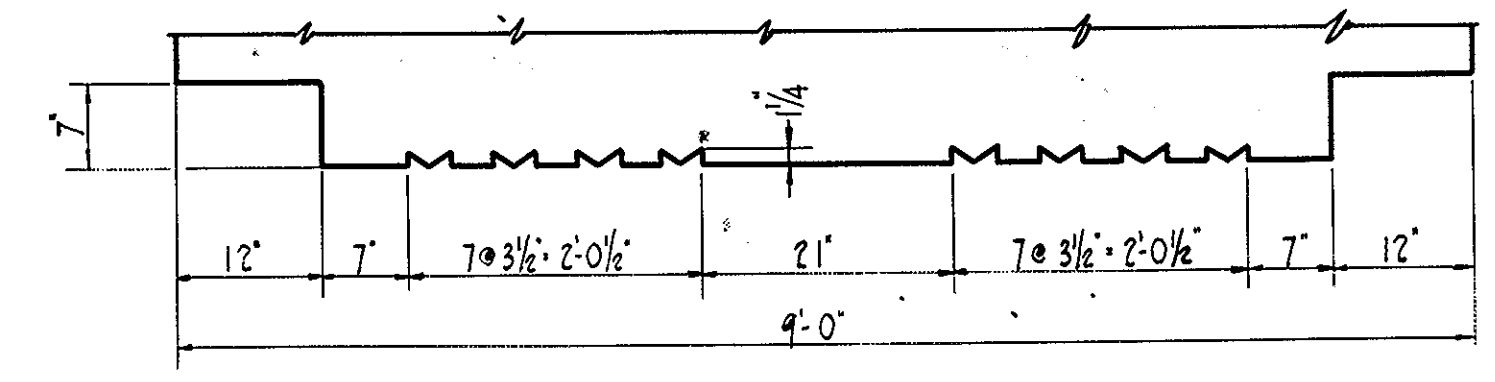
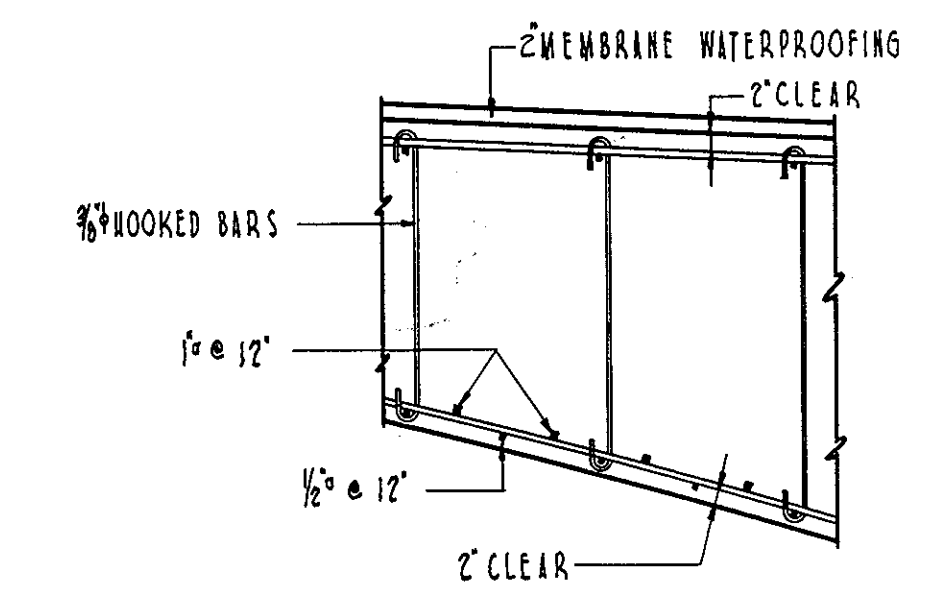
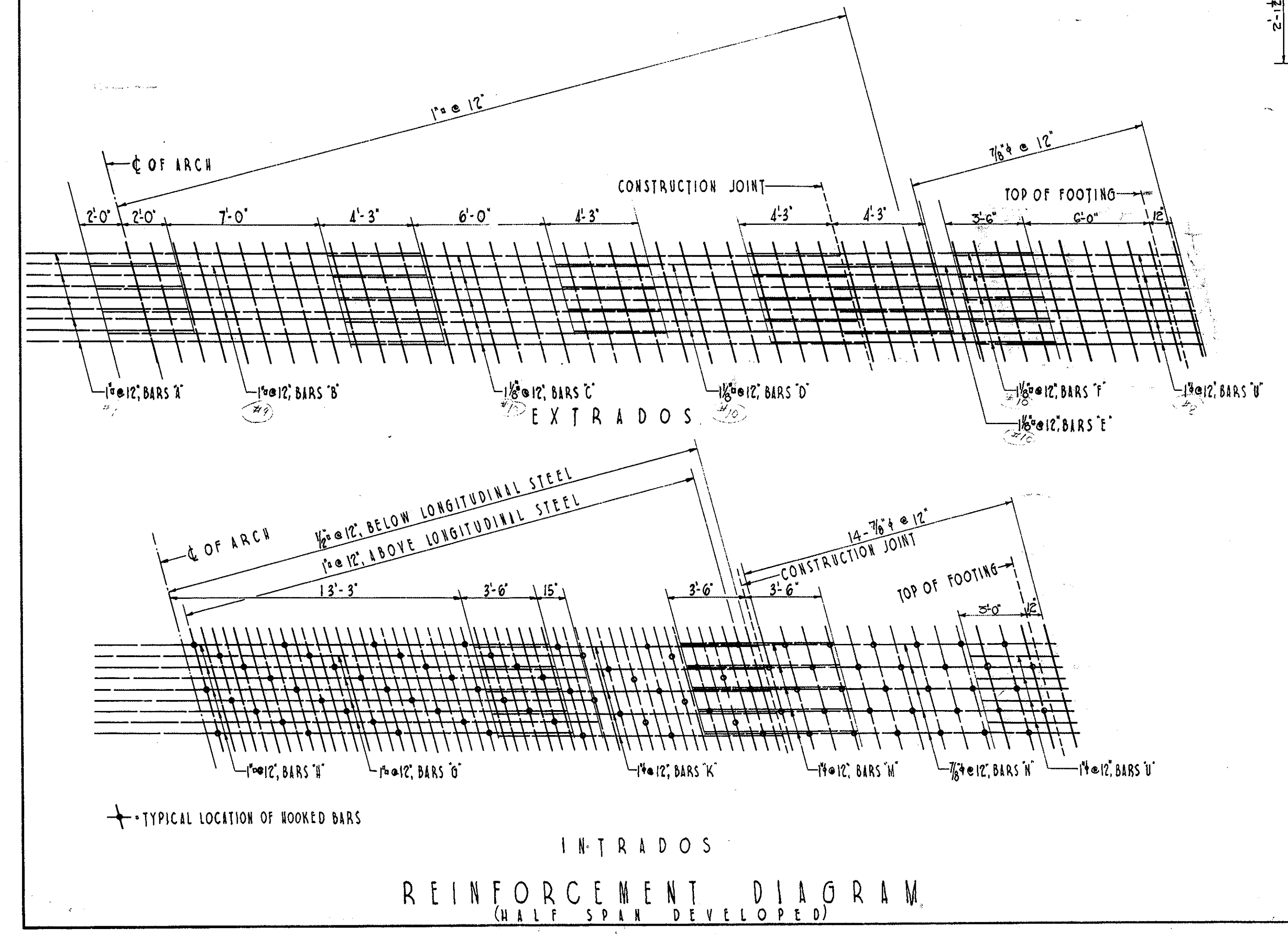
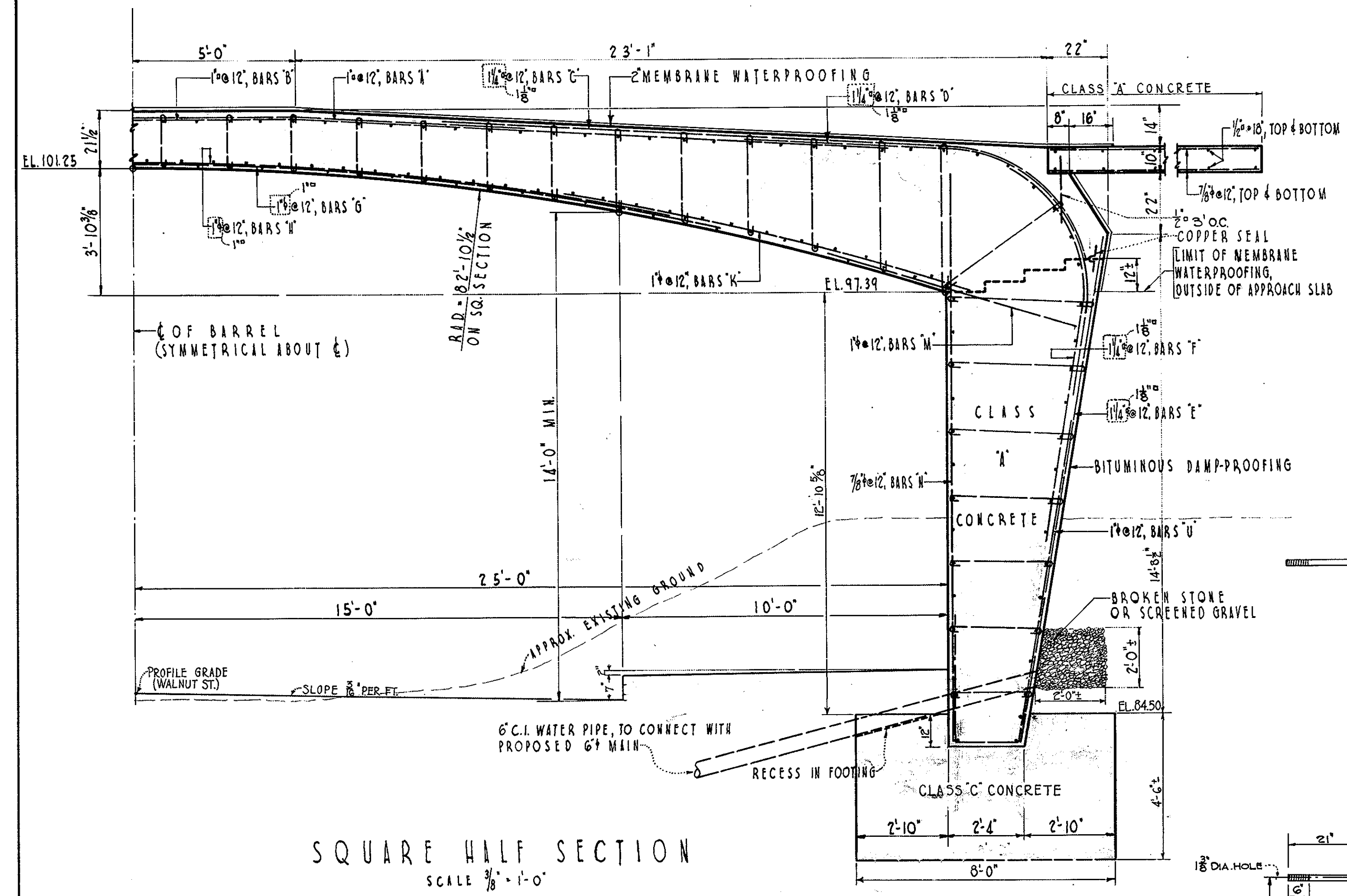
SECTION C-C
 SCALE 1/2" = 1'-0"

NOTE: THIS VIEW SHOWS
 RELATION OF CURB AND
 SIDEWALK TO WINGS A & D

SECTION W₂-W₂
 SCALE 1/2" = 1'-0"

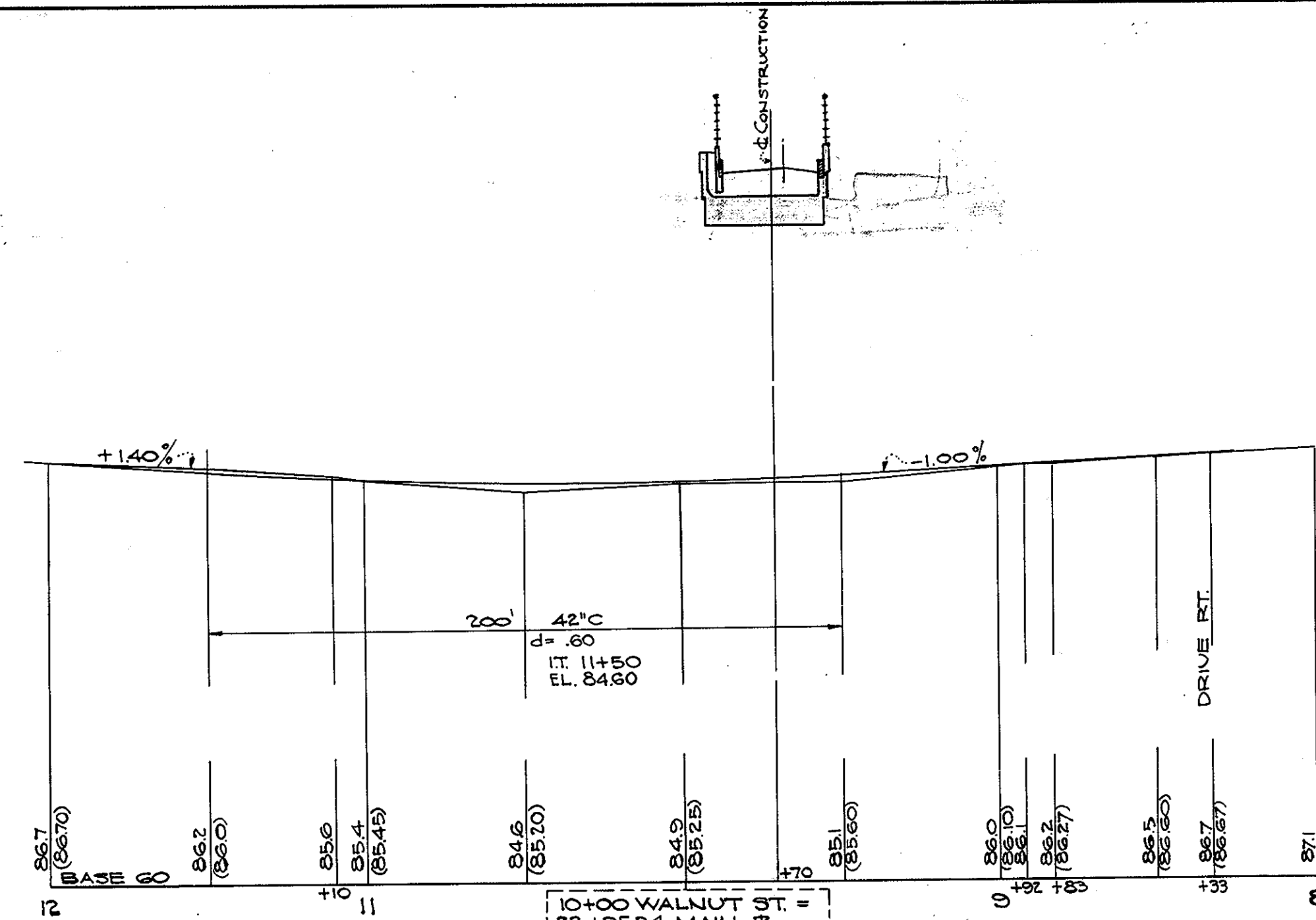
MAXIMUM FOOTING PRESSURE 3 1/2 TONS PER SQ. FT.

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
9	MASS.	272-F	1939	36	132

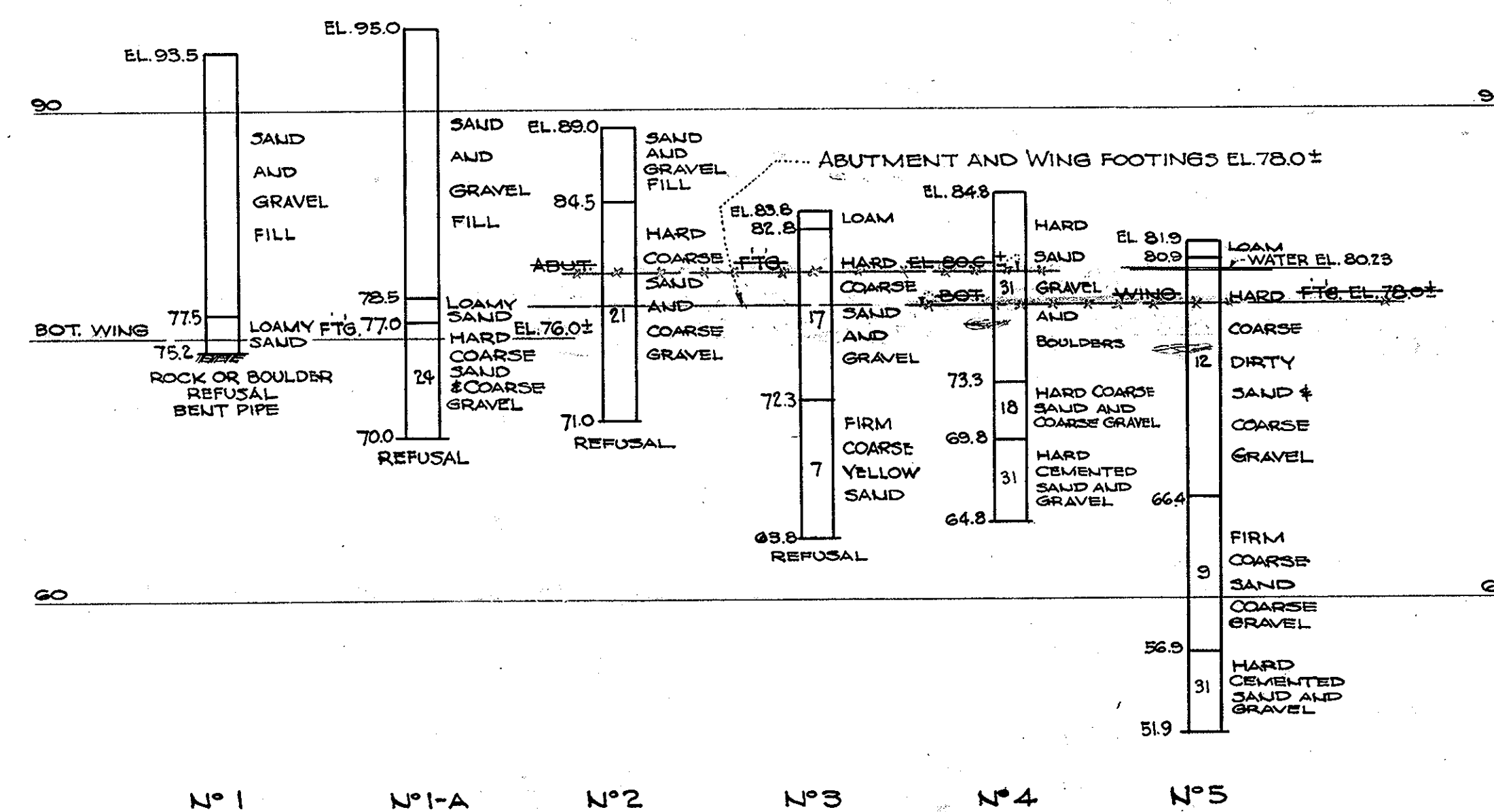


8-23-40	REIN. STEEL REVISED IN SQUARE HALF SECTION
7-22-40	CONSTRUCTION
5-29-40	ADVERTISING
DATE	DESIGN BY T. D. H.
	USE ONLY PRINTS OF LATEST DATE

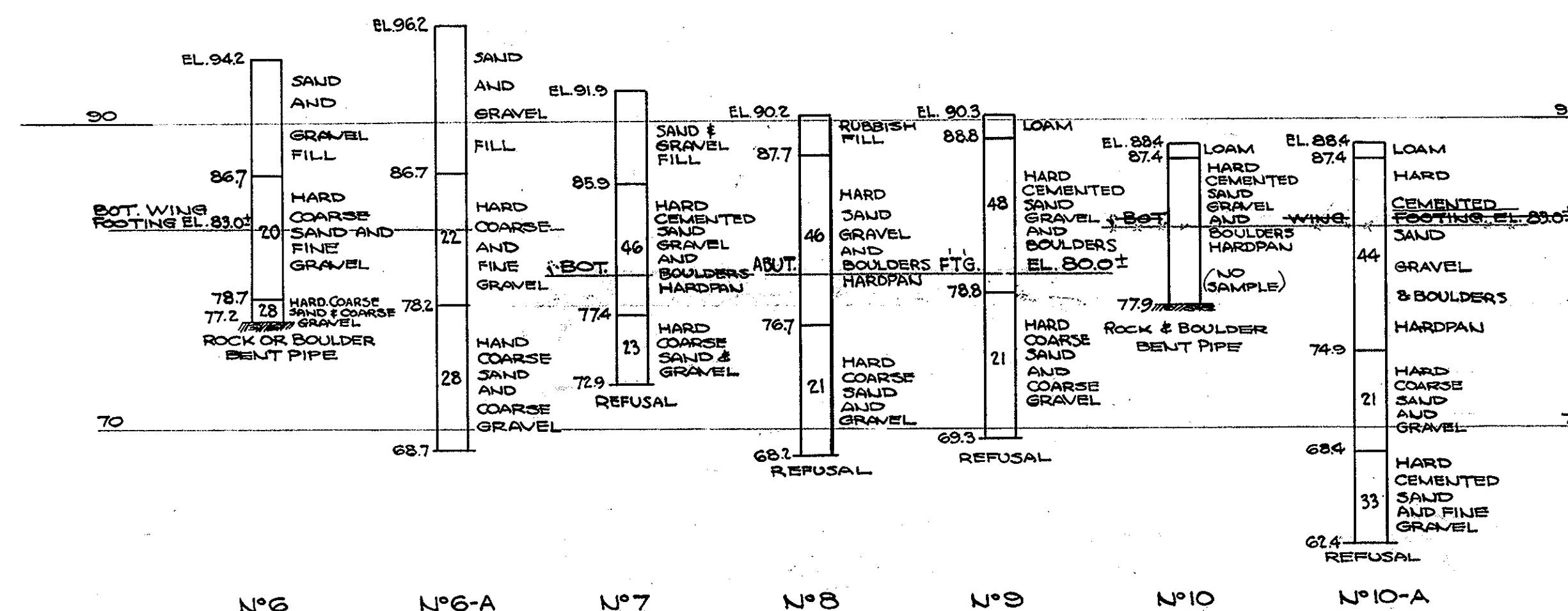
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
9	MASS	272-F	1939	37	132



PROFILE
ALONG WALNUT ST.
HOR. SCALE: 1"=40'-0"; VERT. SCALE 1"=8'-0"



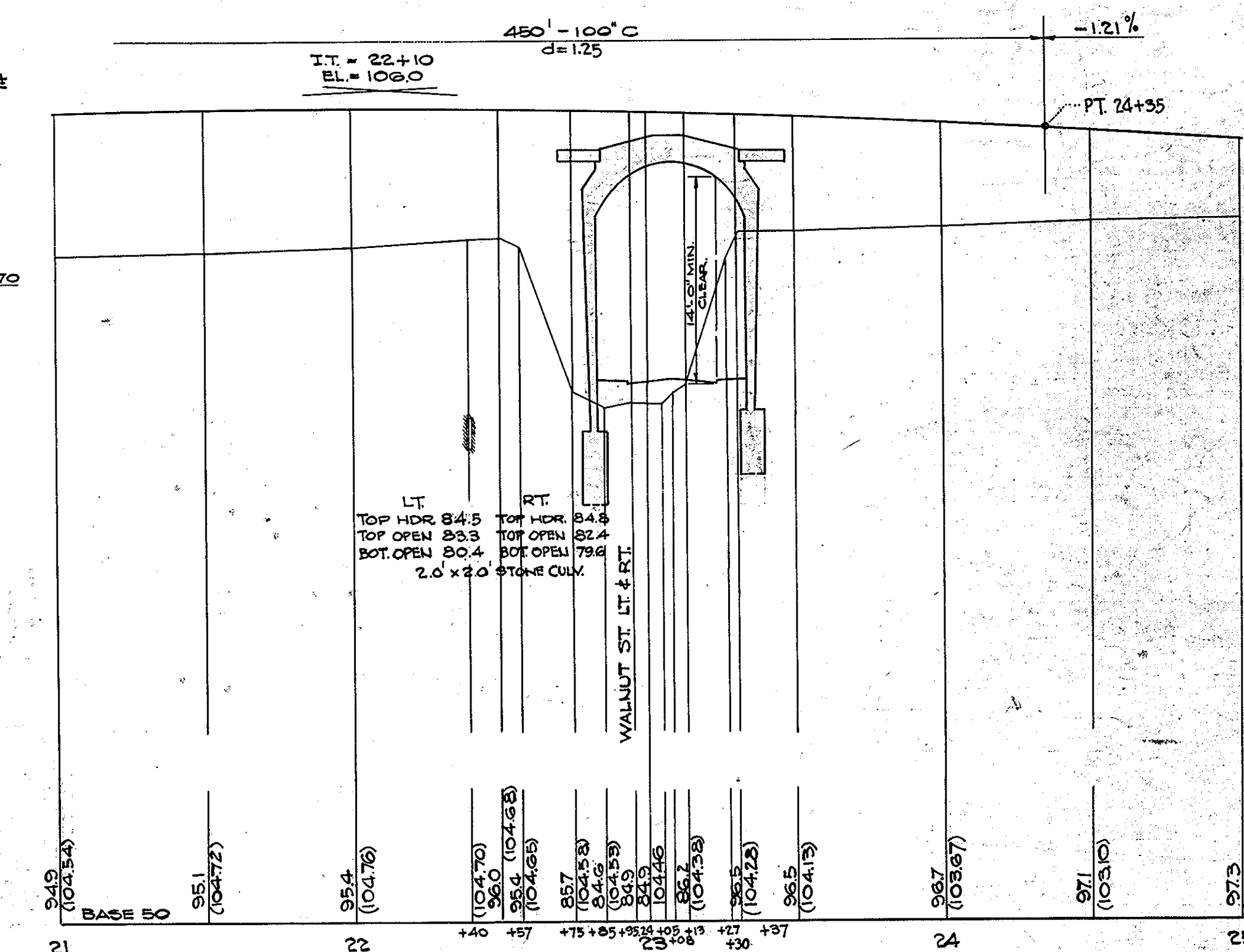
KEY PLAN
SCALE 1"=40'-0"



BORINGS
SCALE 1"=8'-0"
BORINGS TAKEN MARCH 1938

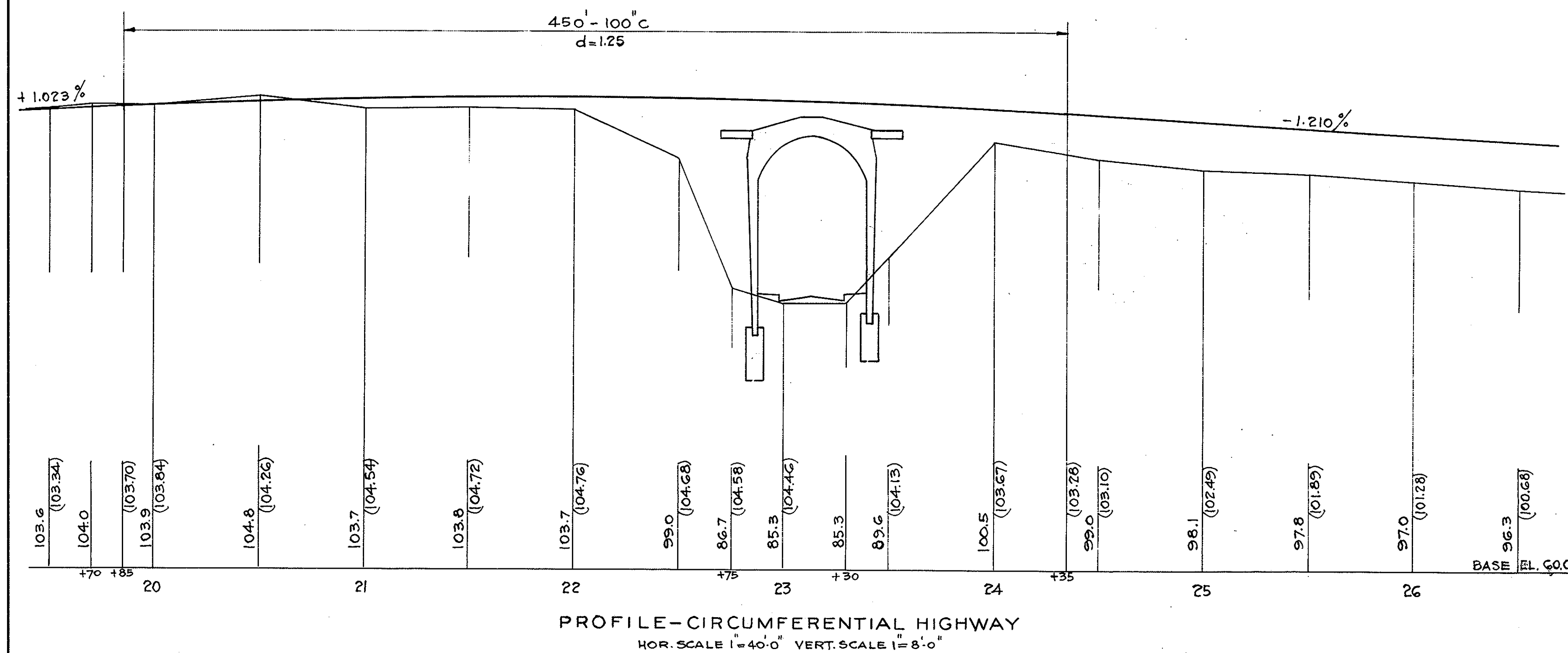
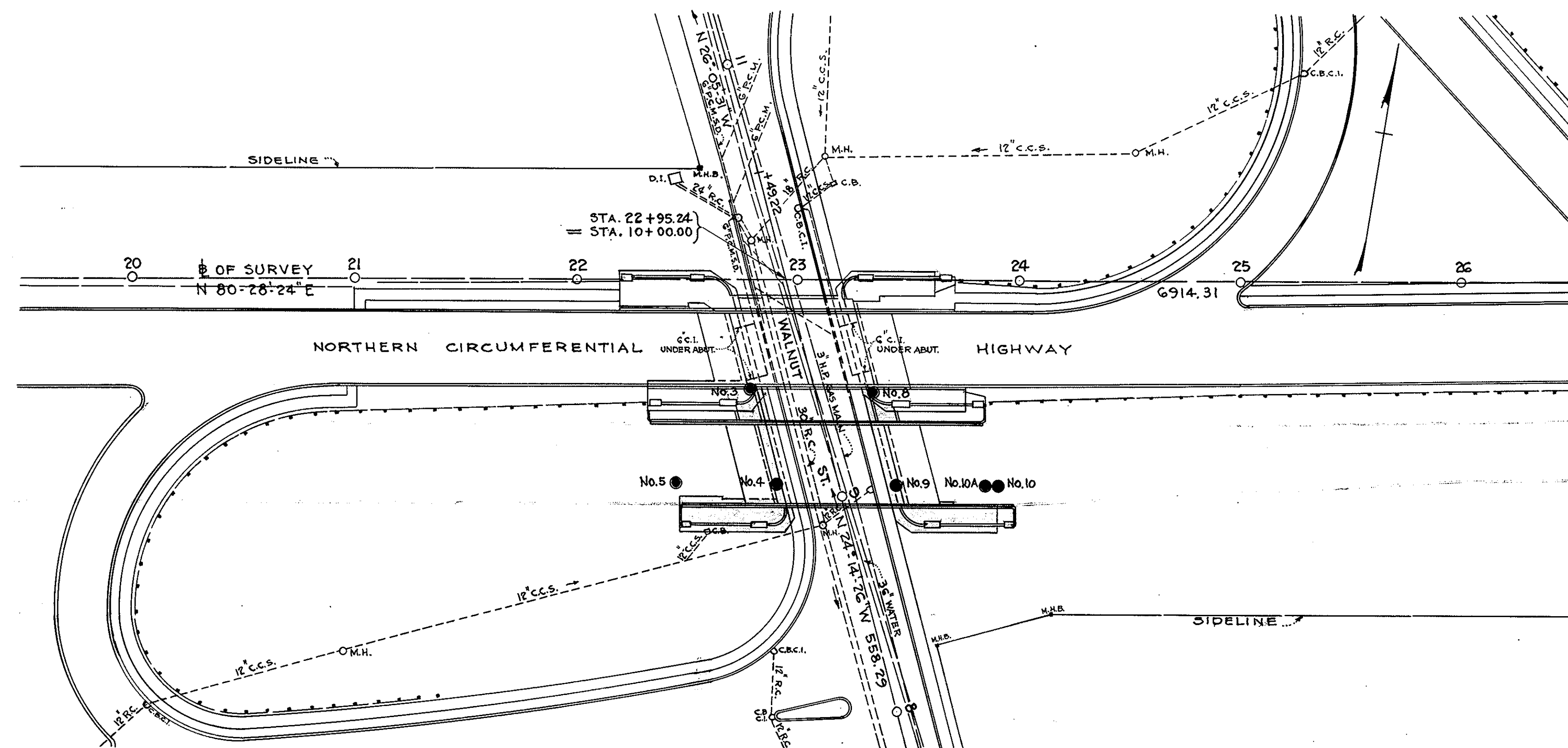
BORING NOTES

LOCATION OF BORINGS SHOWN ON KEY PLAN THUS @ BORING N°4.
BORINGS TAKEN FOR PURPOSE OF DESIGN AND SHOW CONDITIONS AT BORING POINTS ONLY, BUT DO NOT NECESSARILY SHOW NATURE OF MATERIAL TO BE ENCOUNTERED IN CONNECTION WITH CONSTRUCTION OF THE BRIDGE.
FIGURES IN COLUMNS INDICATE BLOWS PER FOOT ON SPOON.
SAMPLES OBTAINED FROM TEST BORINGS ARE AVAILABLE, AND MAY BE SEEN AT THE OFFICE OF THE BRIDGE ENGINEER, ROOM 609.

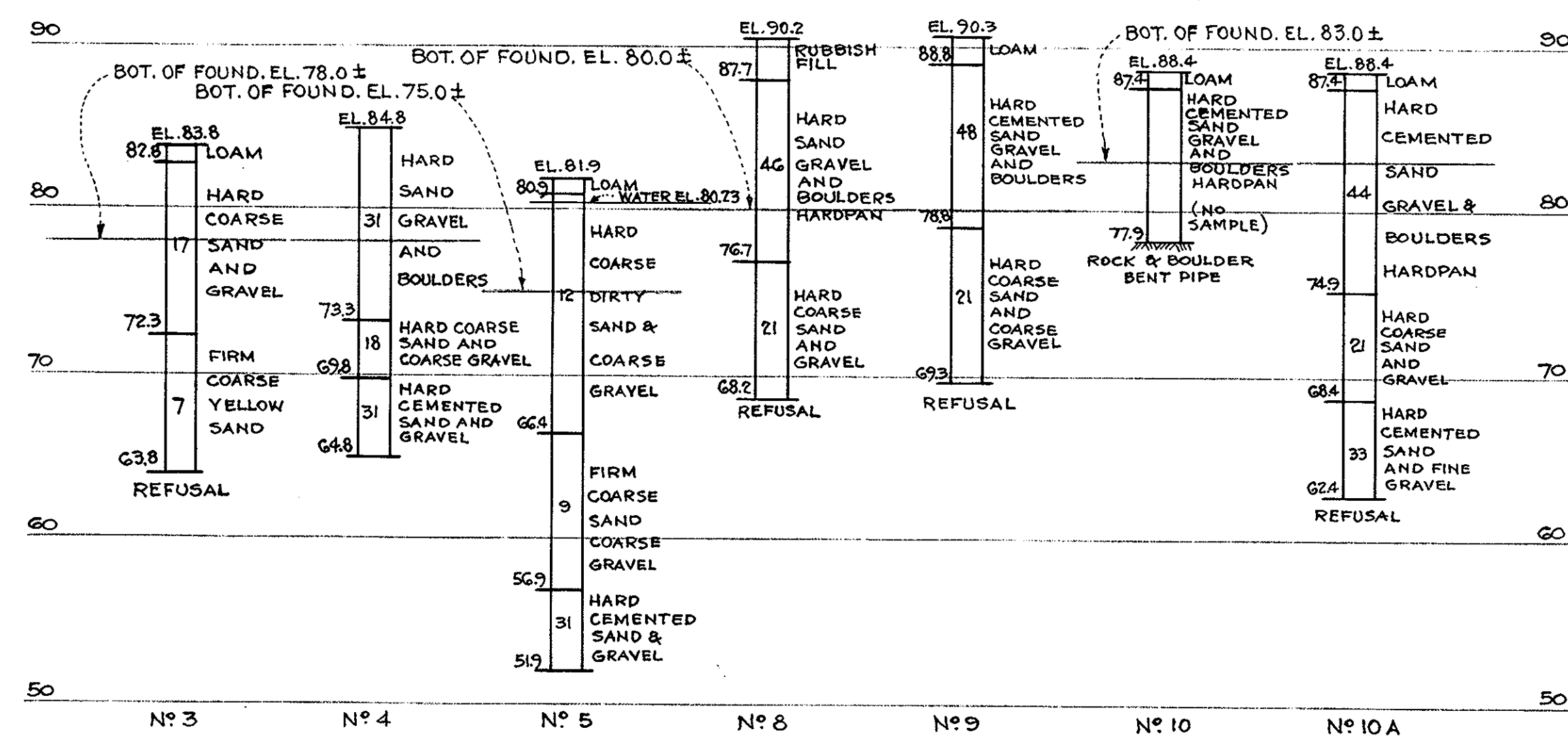


PROFILE
NO. CIRCUM. HIGHWAY
HOR. SCALE: 1"=40'-0"; VERT. SCALE 1"=8'-0"

DATE	DESCRIPTION
8-23-40	MISC. REVISIONS
7-22-40	CONSTRUCTION
5-29-40	ADVERTISING
DATE	DESCRIPTION
USE ONLY PRINTS OF LATEST DATE	



NOTE:- PROFILE AS SHOWN IS 2 FT. SOUTH OF NORTHERLY CURB
OF EAST BOUND ROADWAY.



BORING NOTES

PUB. ROAD D.I.V. NO	STATE	FED. AID PROJ. NO	FISCAL YEAR	SHEET NO	TOTAL SHEET
J.	MASS.	SN-FAY 272(16)	194	16	71

FOUNDATIONS:
MAY BE ALTERED IF NECESSARY TO SUIT CONDITIONS OF
CONSTRUCTION.

DATE & SEAL:
TO BE PLACED ON INSIDE FACE OF SOUTHWESTERLY END POST.
FOR SIZE AND CHARACTER OF NUMERALS, SEE DETAILS ON
ANOTHER SHEET. LOCATION TO BE SAME AS ON END POST OF
EXISTING BRIDGE.

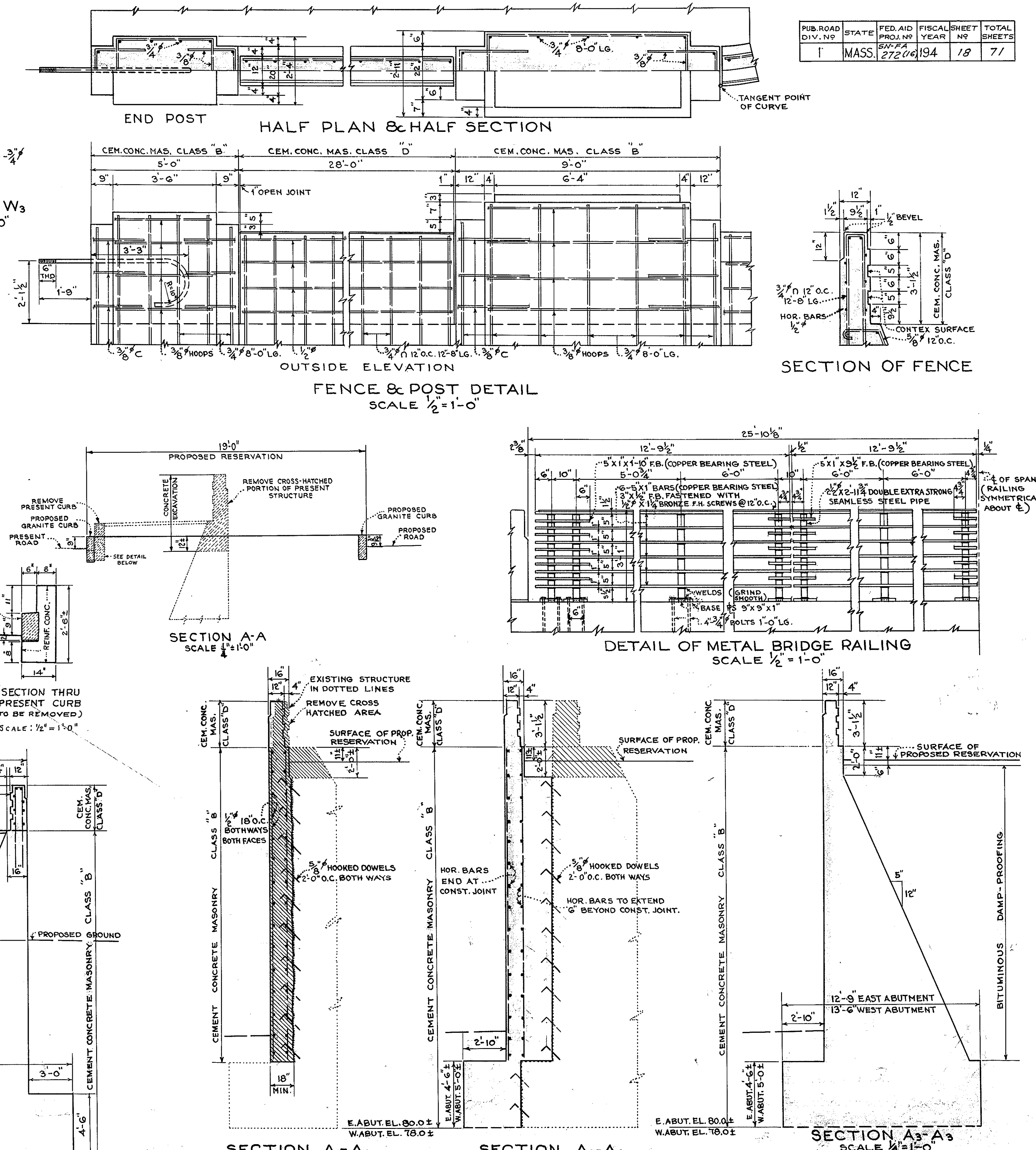
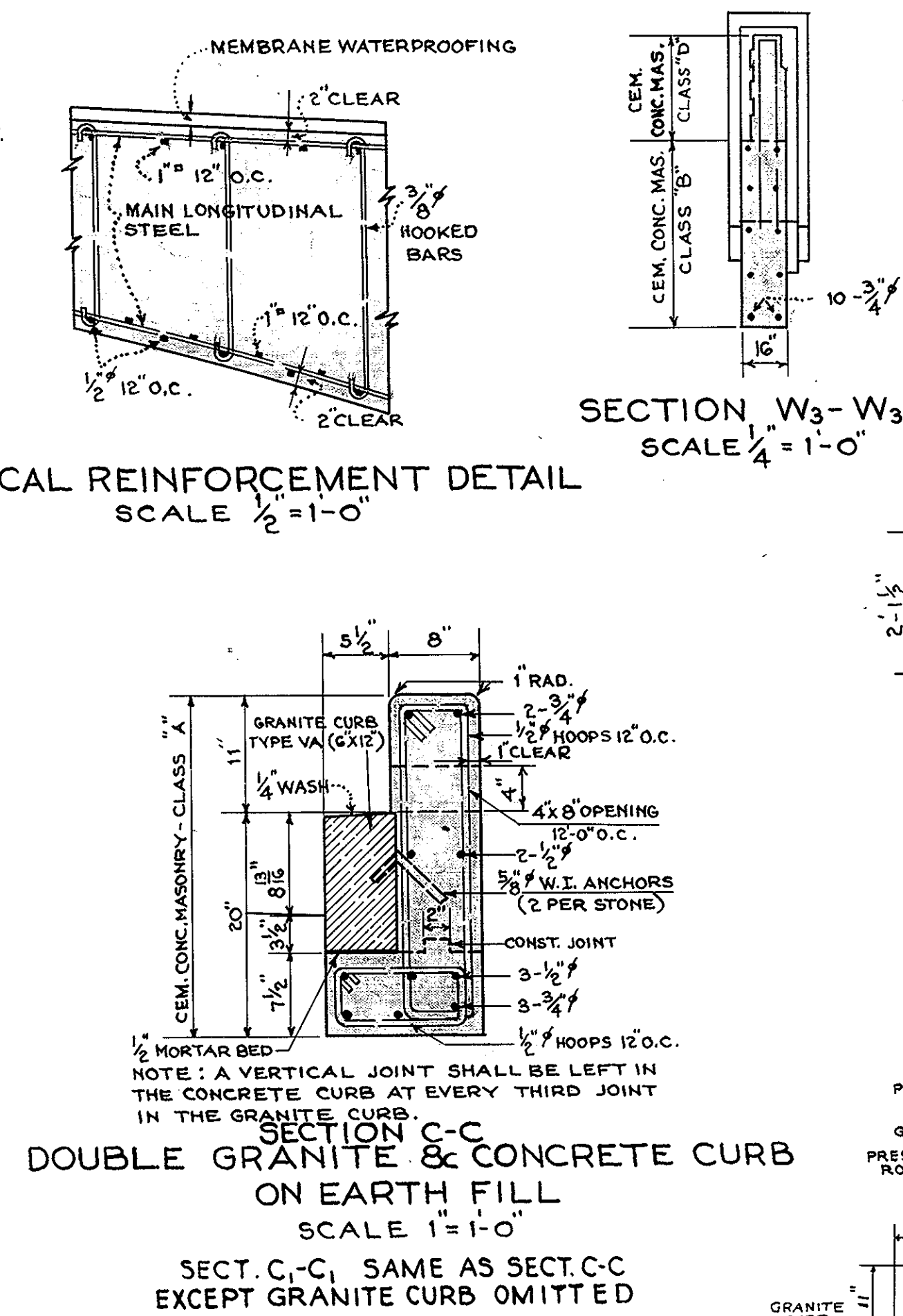
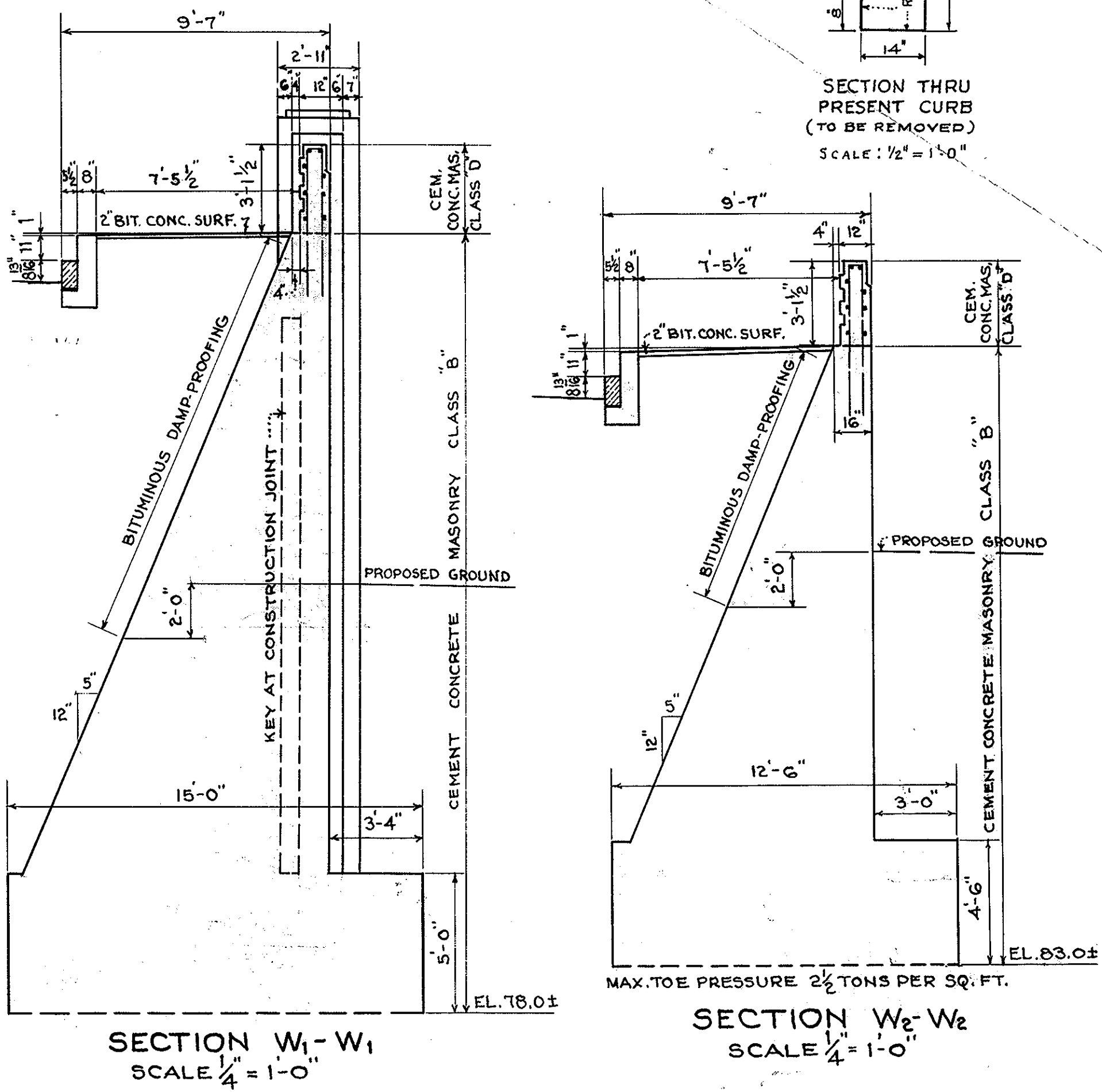
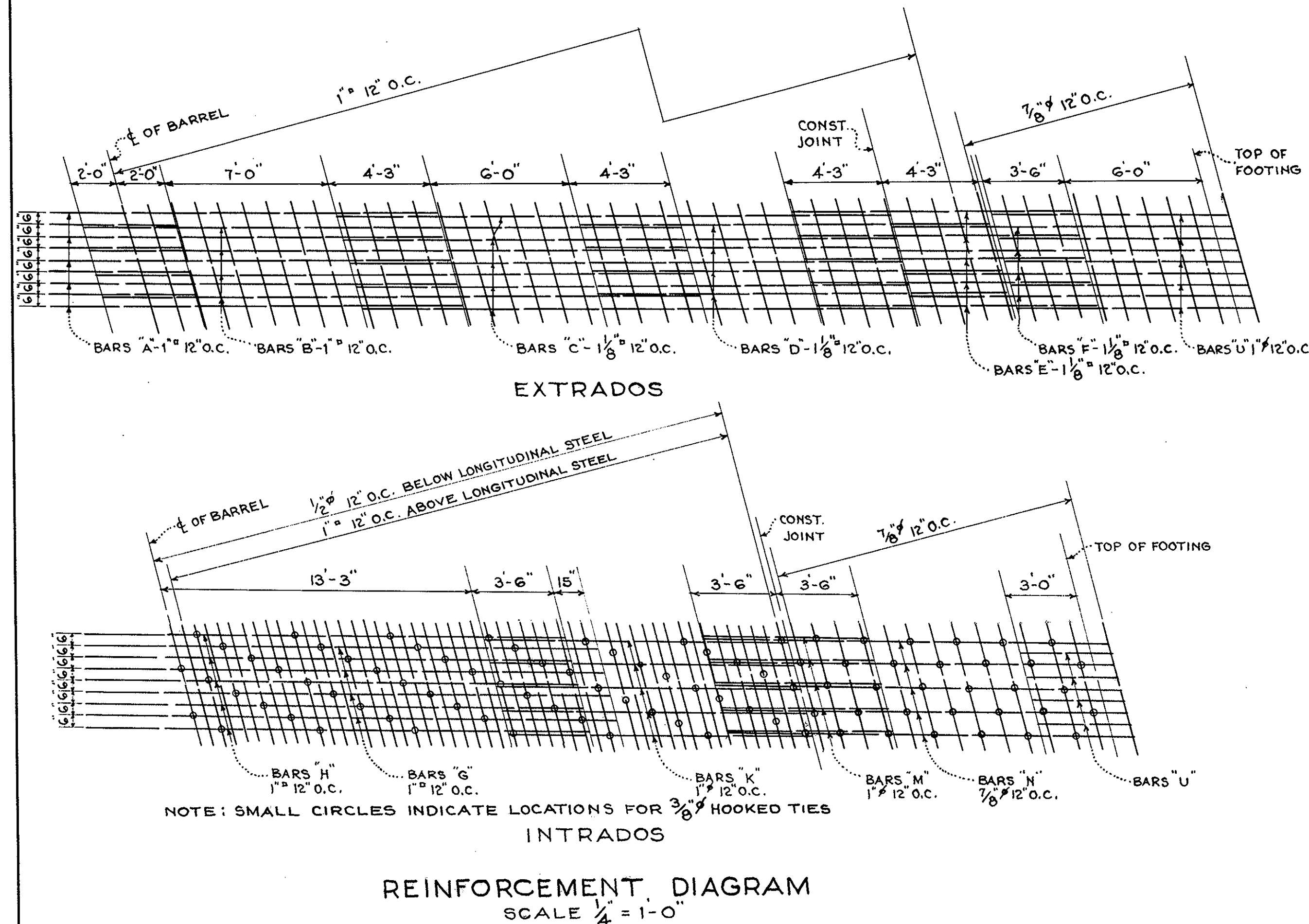
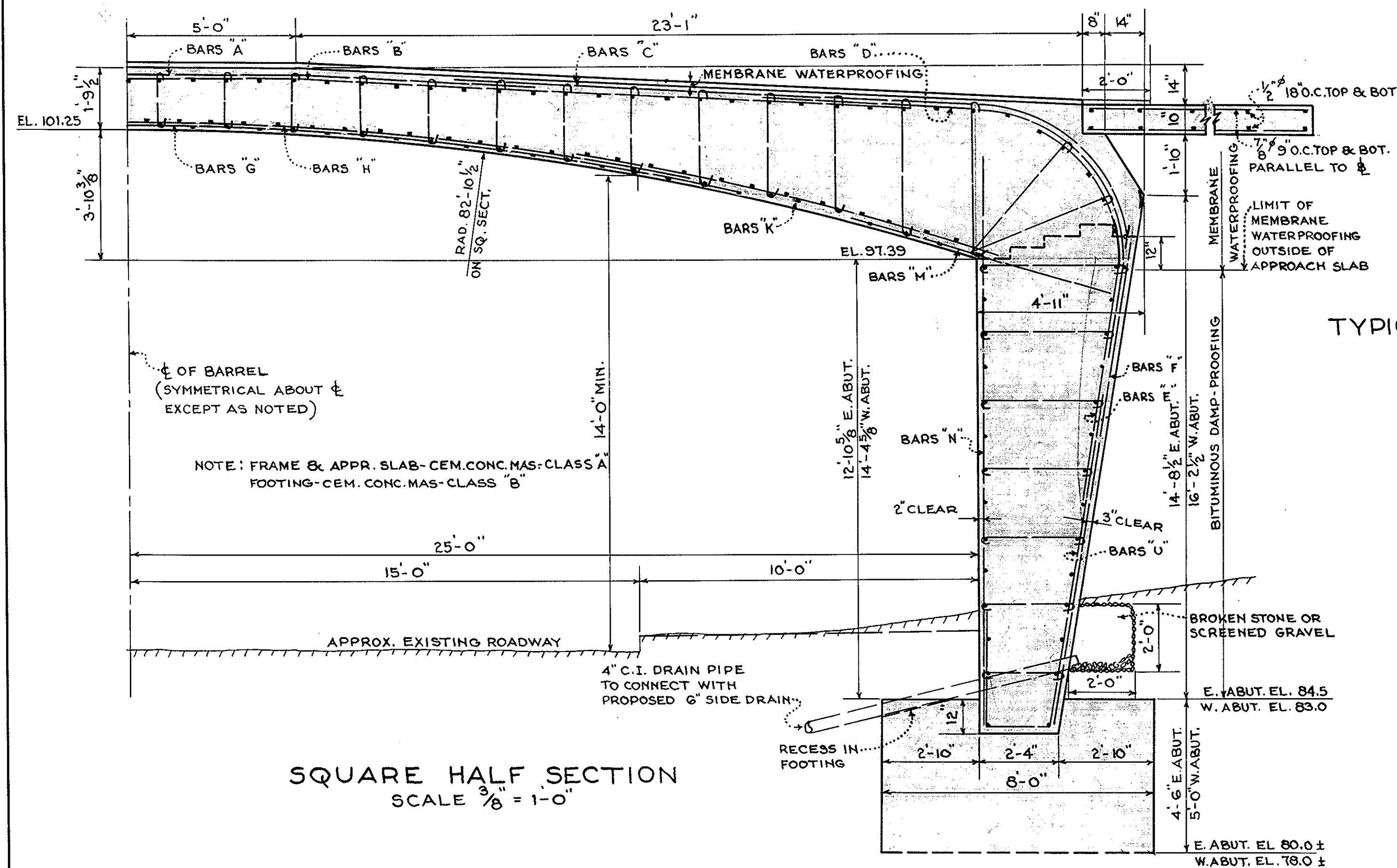
ESTIMATED QUANTITIES		
(NOT GUARANTEED)		
BRIDGE EXCAVATION	750	CU. YDS.
CLASS B ROCK EXCAVATION	10	CU. YDS.
CONCRETE EXCAVATION	51	CU. YDS.
GRAVEL BORROW	1100	CU. YDS.
STRIPPING GRAVEL PITS	110	CU. YDS.
CEM. CONC. MASONRY CLASS A	458	CU. YDS.
CEM. CONC. MASONRY CLASS B	960	CU. YDS.
CEM. CONC. MASONRY CLASS D	127	CU. YDS.
STEEL REINF. FOR STRUCTURES	100000	POUNDS
MEMBRANE WATERPROOFING	225	SQ. YDS.
BITUMINOUS DAMP-PROOFING	310	SQ. YDS.
METAL BRIDGE RAILINGS	102.5	LIN. FT.
4" L.W. CAST IRON PIPE	32	LIN. FT.
GRANITE CURB TYPE VA(6"x12") STR.	203	LIN. FT.
BIT. CONC. WALK SURFACE	5	TONS
CRUSHED STONE BASE FOR WALKS	10	TONS
BITUMEN FOR WALK BASE (ASPHALT)	73	GALS.
CON-TEX SURFACE FINISH	108	SQ. FT.
BUSH HAMMERED SURFACE FINISH	500	SQ. FT.
ALUMINUM ORNAMENTS	2	EACH

DATE	SHEET NOS.	DESCRIPTION
LIST OF REVISIONS • USE ONLY PRINTS OF LATEST DAT		

NORTHERN CIRCUMFERENTIAL HIGHWAY-STA. 23+08.37
OVER WALNUT ST.

ADVERTISING	CONSTRUCTION			
3-30-46	6-14-46			

PUB. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	MASS.	67-PA 272 06	194	18	71



FILE NO.	SHEET NO.	PROJECT NO.	SHEET NO.	TOTAL SHEETS
1	MASS.	DU-272(5)	1	5

GENERAL NOTES

REINFORCEMENT BARS SHALL HAVE DEFORMATIONS CONFORMING TO A.S.T.M. SPECIFICATION A615. REINFORCING BARS SHALL BE LAPPED 20 DIAMETERS TO MAKE A SPLICE, EXCEPT THAT MAIN REINFORCING BARS NEAR THE TOP OF SLABS AND BEAMS HAVING MORE THAN 12 INCHES OF CONCRETE UNDER THE BARS SHALL BE LAPPED 35 DIAMETERS TO MAKE A SPLICE. FOUNDATIONS MAY BE ALTERED IF NECESSARY TO SUIT CONDITIONS ENCOUNTERED IN CONSTRUCTION.

DATE & SEAL TO BE PLACED ON THE INSIDE OF THE BRIDGE RAILING AT THE NORTHEASTERNLY AND SOUTHWESTERNLY ENDS DATE TO BE PLACED ON THE INSIDE OF THE BRIDGE RAILING AT THE SOUTHWESTERNLY END. SHEET NO. 1 OF 5 SHEETS TO BE PLACED BY THE CONTRACTOR.

DESIGN IN ACCORDANCE WITH THE CURRENT SPECIFICATIONS OF THE AMERICAN ASSOCIATION OF STATE HIGHWAY OFFICIALS FOR H-20-44 LOADING 1957 EDITION.

BENCH MARK B.M. STA. 770+02.144 1" T. VERT. S.P.K. FOOT OF 30" PINE. ELEV. 128.25 M.S.L. UNADJUSTED.

DIMENSIONS AND DETAILS SHOWN FOR THE EXISTING STRUCTURE MUST BE CHECKED IN THE FIELD BY THE CONTRACTOR.

ESTIMATED QUANTITIES (NOT GUARANTEED)

BRIDGE EXCAVATION	900 CY
CONCRETE EXCAVATION	80 CY
REINFORCED CONCRETE EXCAVATION	121 CY
CEMENT CONCRETE EXCAVATION	700 CY
CEMENT CONCRETE EXCAVATION	690 CY
CEMENT CONCRETE EXCAVATION	935 CY
CEMENT CONCRETE EXCAVATION	11 CY
CEMENT CONCRETE EXCAVATION	110,825 LBS.
CEMENT CONCRETE EXCAVATION	450 SY
CEMENT CONCRETE EXCAVATION	450 SY
CEMENT CONCRETE EXCAVATION	240 SY
CEMENT CONCRETE EXCAVATION	240 SY
CEMENT CONCRETE EXCAVATION	239 C.F.

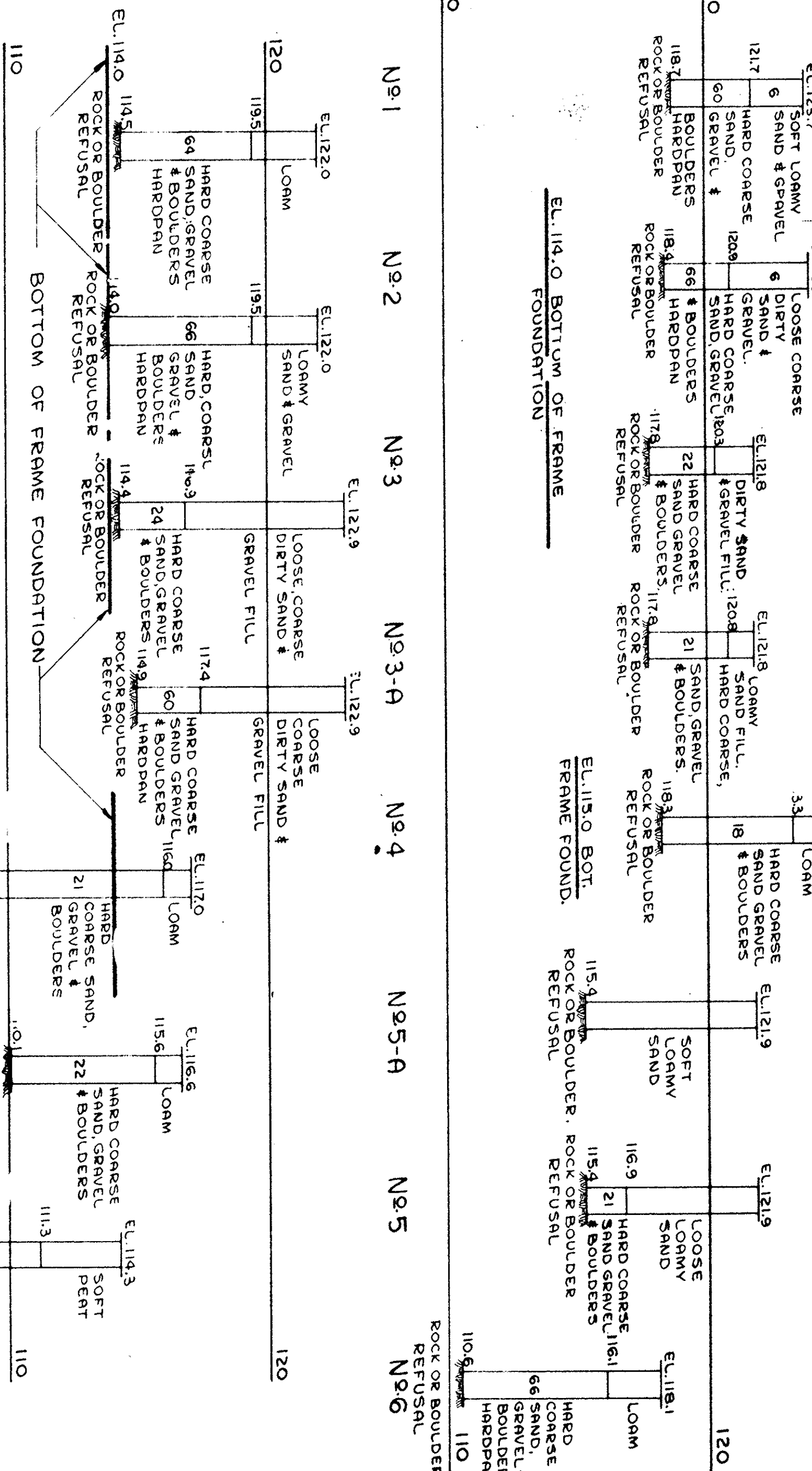
BORING NOTES

LOCATIONS OF BORINGS SHOWN ON PLAN THUS: ① N° 1. BORINGS TAKEN FOR PURPOSE OF DESIGN AND SHOW CONDITIONS AT BORING POINTS ONLY BUT DO NOT NECESSARILY SHOW NATURE OF MATERIAL TO BE ENCOUNTERED IN CONNECTION WITH THE CONSTRUCTION OF THE BRIDGE.

FIGURES IN COLUMNS INDICATE BLOWS PER FOOT ON 1 1/2" PIPE PRODUCED BY 30" FALL OF 140# HAMMER. SAMPLES FROM NEW (JULY 1958) BORINGS MAY BE SEEN AT THE DEPARTMENT'S LABORATORY IN THE MAINTENANCE BUILDING ON ROUTE 9 IN WELLESLEY. SAMPLES FROM ORIGINAL (MARCH 1938) BORINGS ARE UNAVAILABLE.

BORING DATA

SCALE: 1" = 4'-0" BORINGS TAKEN MARCH 1938 FOR ADDITIONAL BORINGS TAKEN JULY 1958 SEE SHEET NO. 2.



PLAN

SCALE: 1" = 40'-0"

200' - 60° C

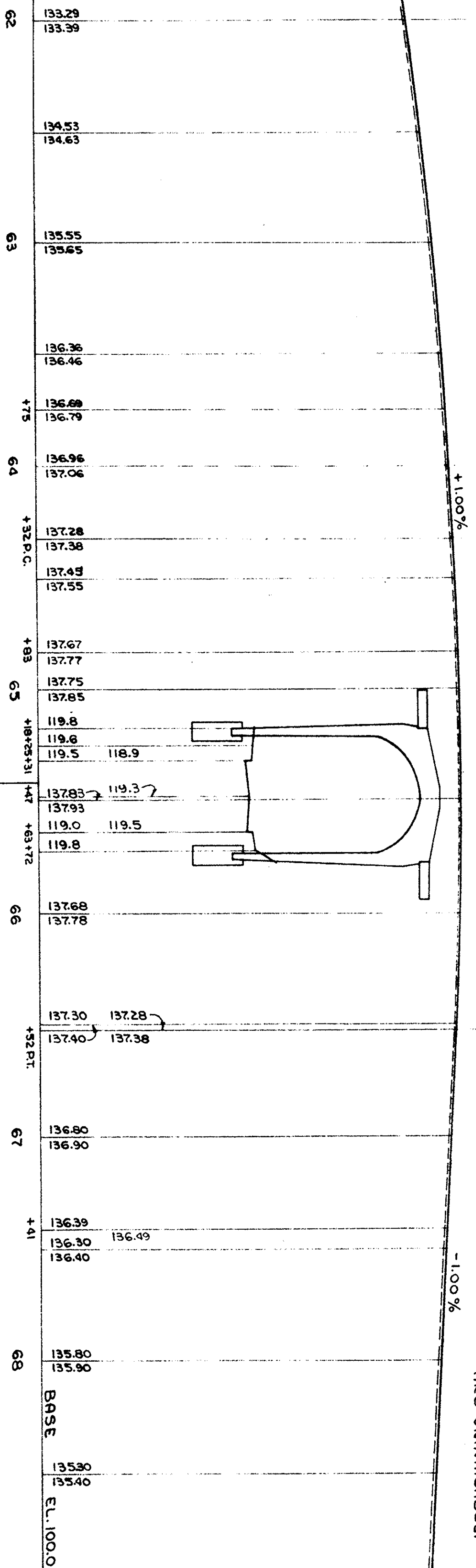
220' - 55° C

d = 0.51

d = 0.55

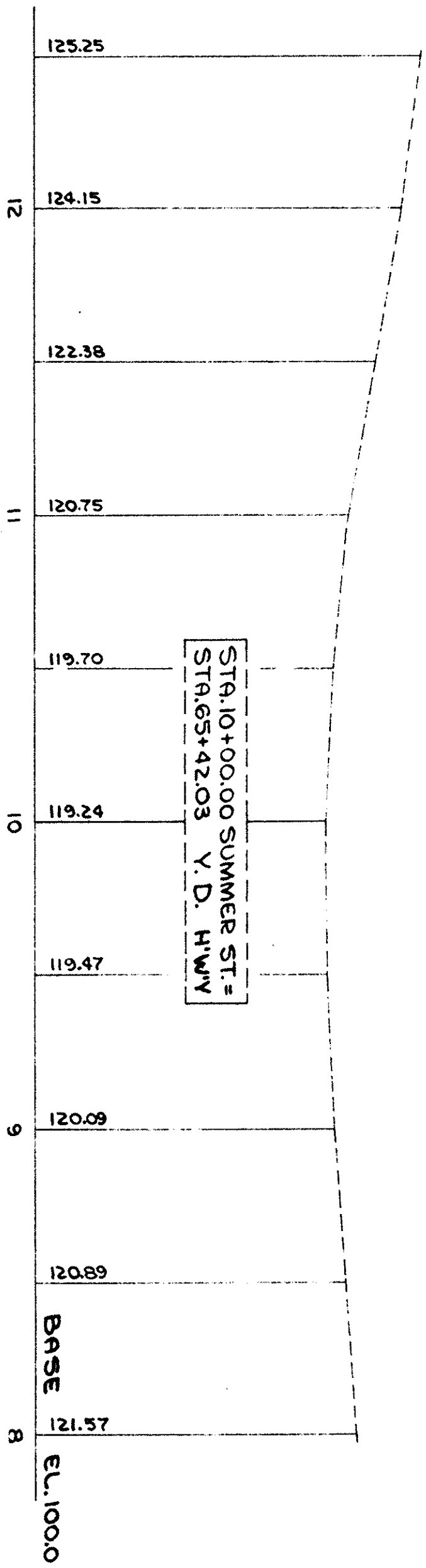
PROFILE - YANKEE DIVISION HIGHWAY

HOR. SCALE: 1" = 40'-0" VERT. SCALE: 1" = 8'-0"



PROFILE - SUMMER STREET

HOR. SCALE: 1" = 40'-0" VERT. SCALE: 1" = 8'-0"



CONSULTING ENGINEER
UTILITY ENGINEERS, INC.
BOSTON, MASS.

SHEET 1 OF 5 SHEETS BRIDGE NO. L-19-7

THE COMMONWEALTH OF MASSACHUSETTS

PROPOSED BRIDGE

WIDENING

LYNNFIELD

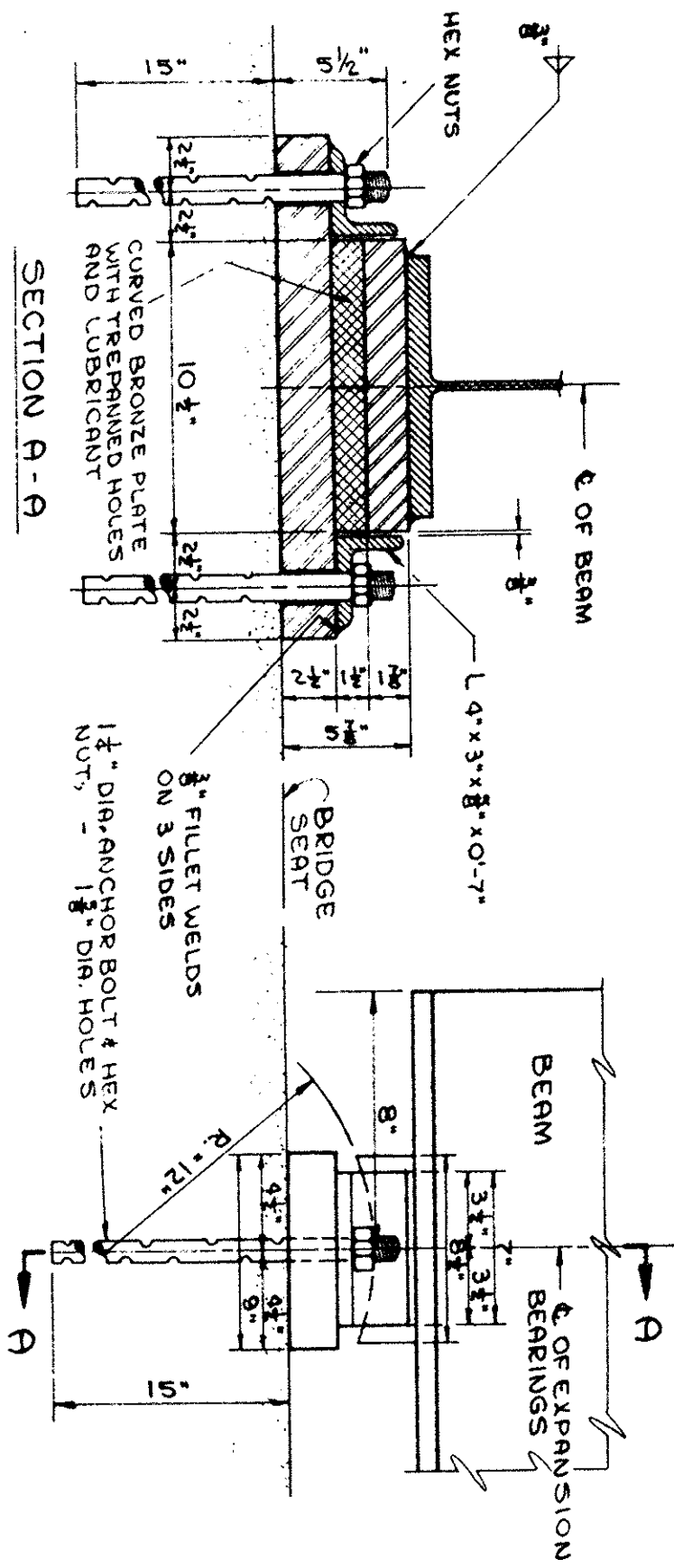
AUTO RTE. 128 STA. 65+42.03 OVER

SUMMER ST. STA. 10+00.00

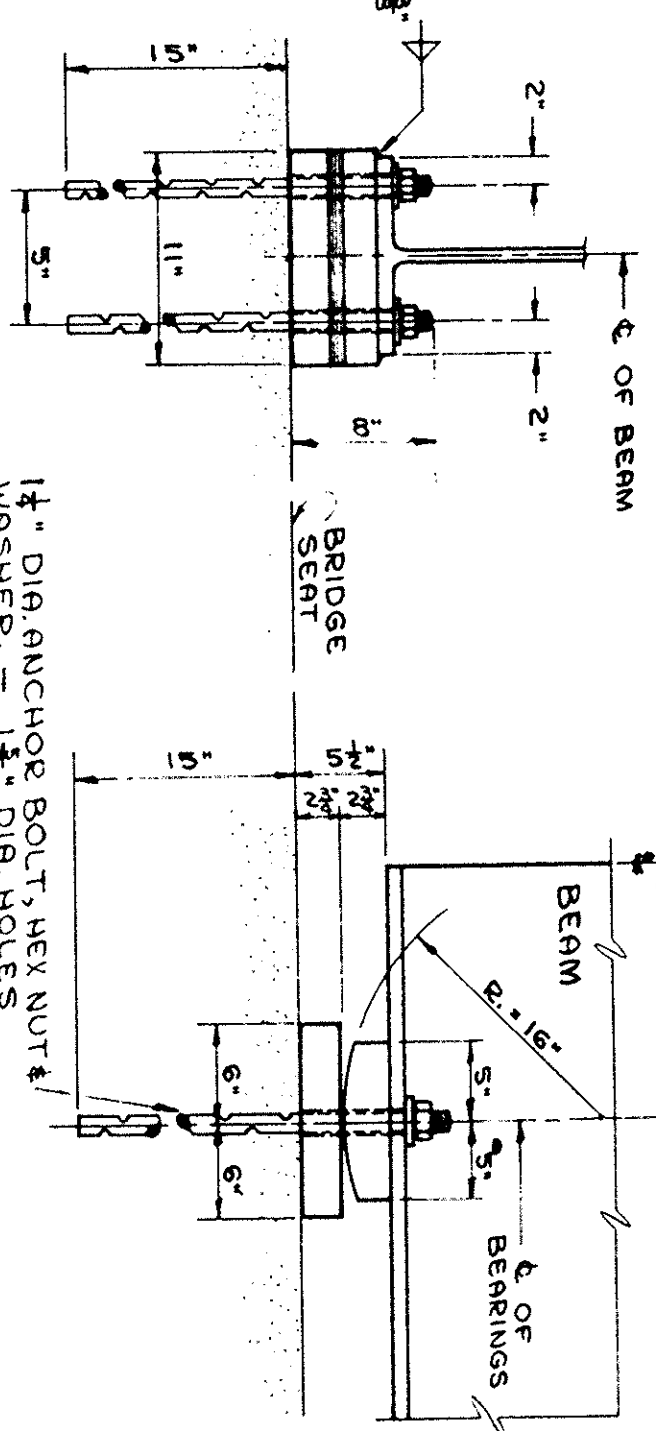
SCALES AS NOTED

OFFICE OF
DEPARTMENT OF PUBLIC WORKS
100 NASHUA ST. - BOSTON, MASS.
SEPT. 1958

DWG. NO.	STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
1	MASS	DU-27234			

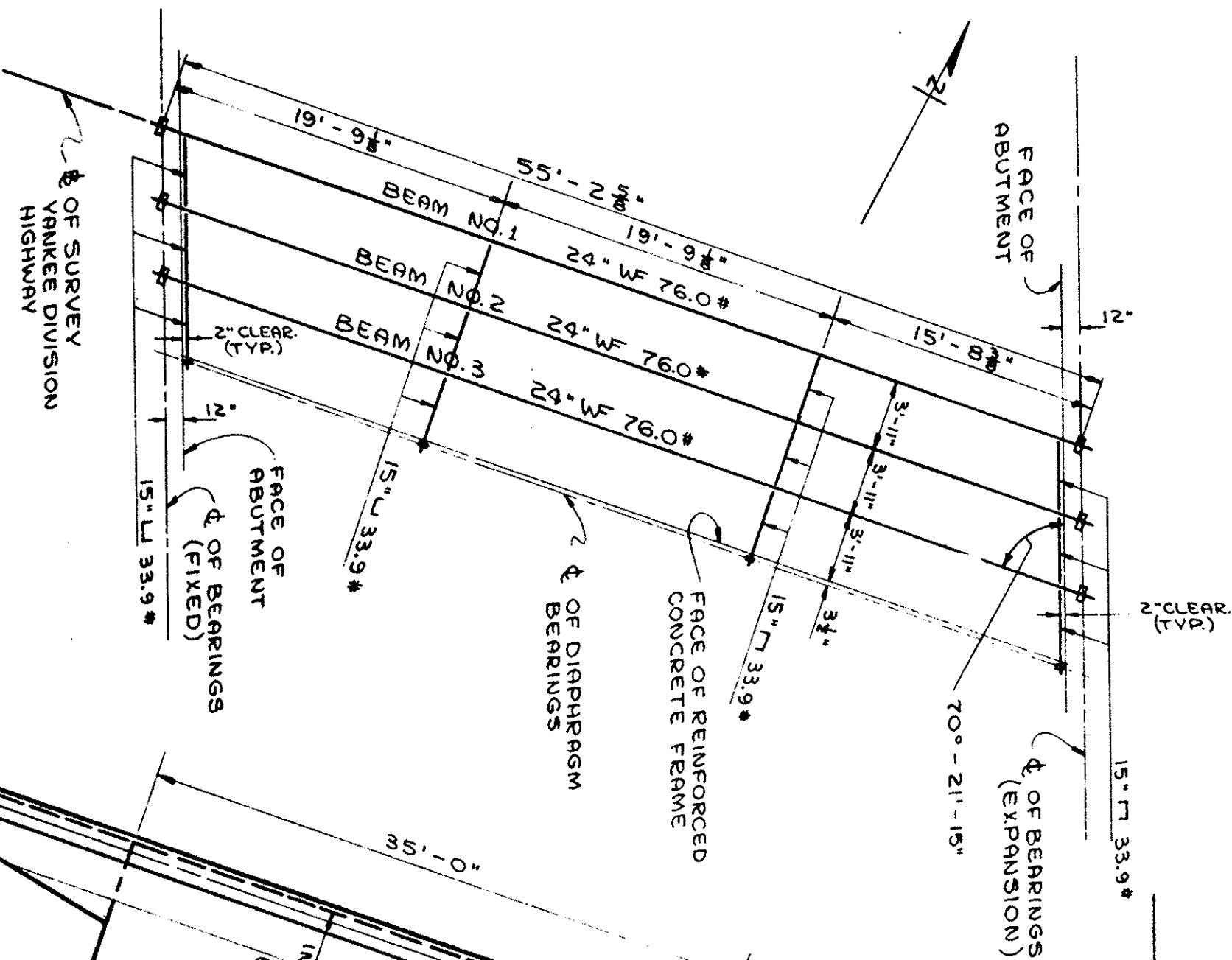


EXPANSION BEARING



STRINGER BEARING DETAILS

SCALE: NONE



MEDIAN STEEL LAYOUT

SCALE: 1/8" = 1'-0"

CAMBER NOTE:
STRINGERS SHALL BE CAMBERED NOT LESS THAN 1/8" AND NOT MORE THAN 1/4".

SUMMER

STREET

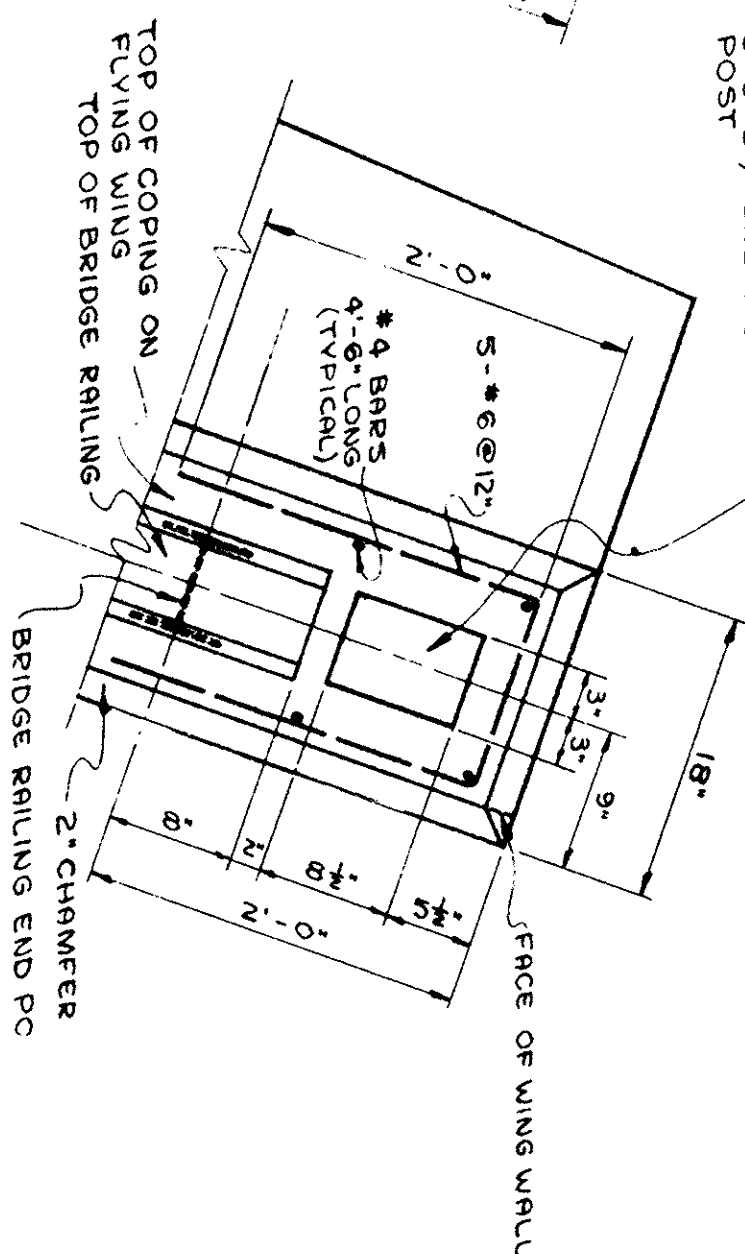
STR. 65+42.03 V.D. HIGHWAY =
STR. 10+00.00 SUMMER ST.

NOTE:
STAIRWAY TO BE REMOVED
ABOVE SUB GRADE & SUCH
OTHER PORTIONS IN WAY OF
NEW CONSTRUCTION AS
IS NECESSARY.

NOTE:
FOR REMOVAL OF PORTIONS
OF EXISTING STRUCTURE,
SEE SHEETS NO. 3 & 4.

WELL FOR HIGHWAY GUARD
END ANCHOR POST (TYP.)
SEE DETAIL 'B'.

6'-1 1/2" x 3'-6" DEEP WELL
C-3 x 5" END ANCHOR
POST

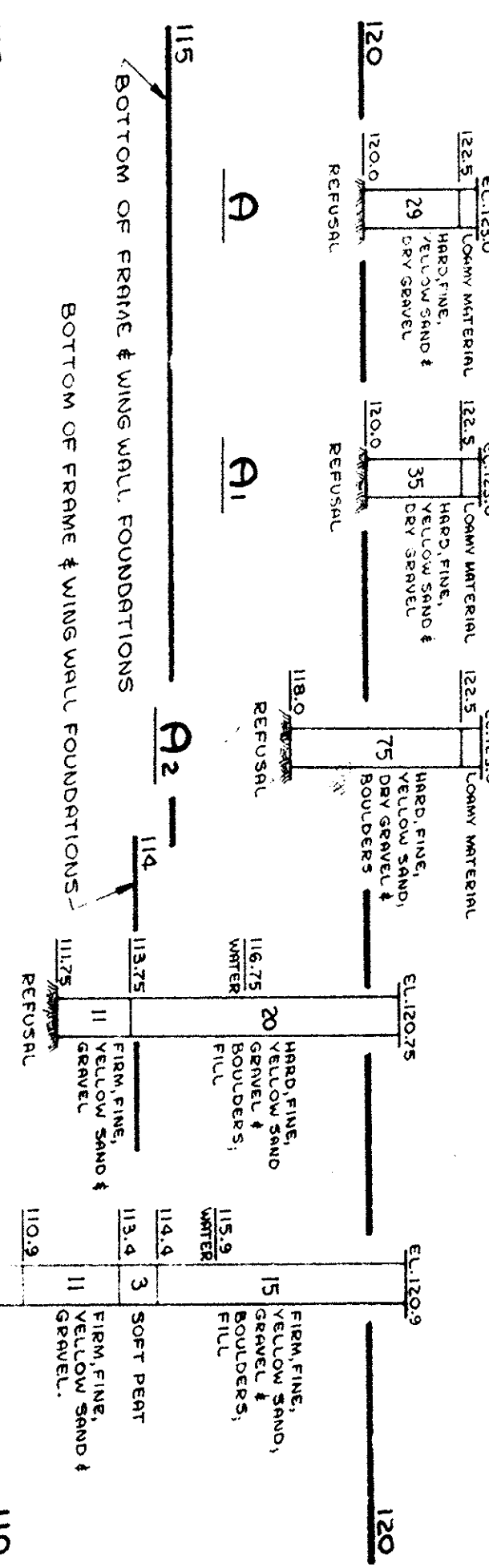


DETAIL 'A'

SCALE: 1/4" = 1'-0"

DETAIL 'B'

SCALE: 1/4" = 1'-0"



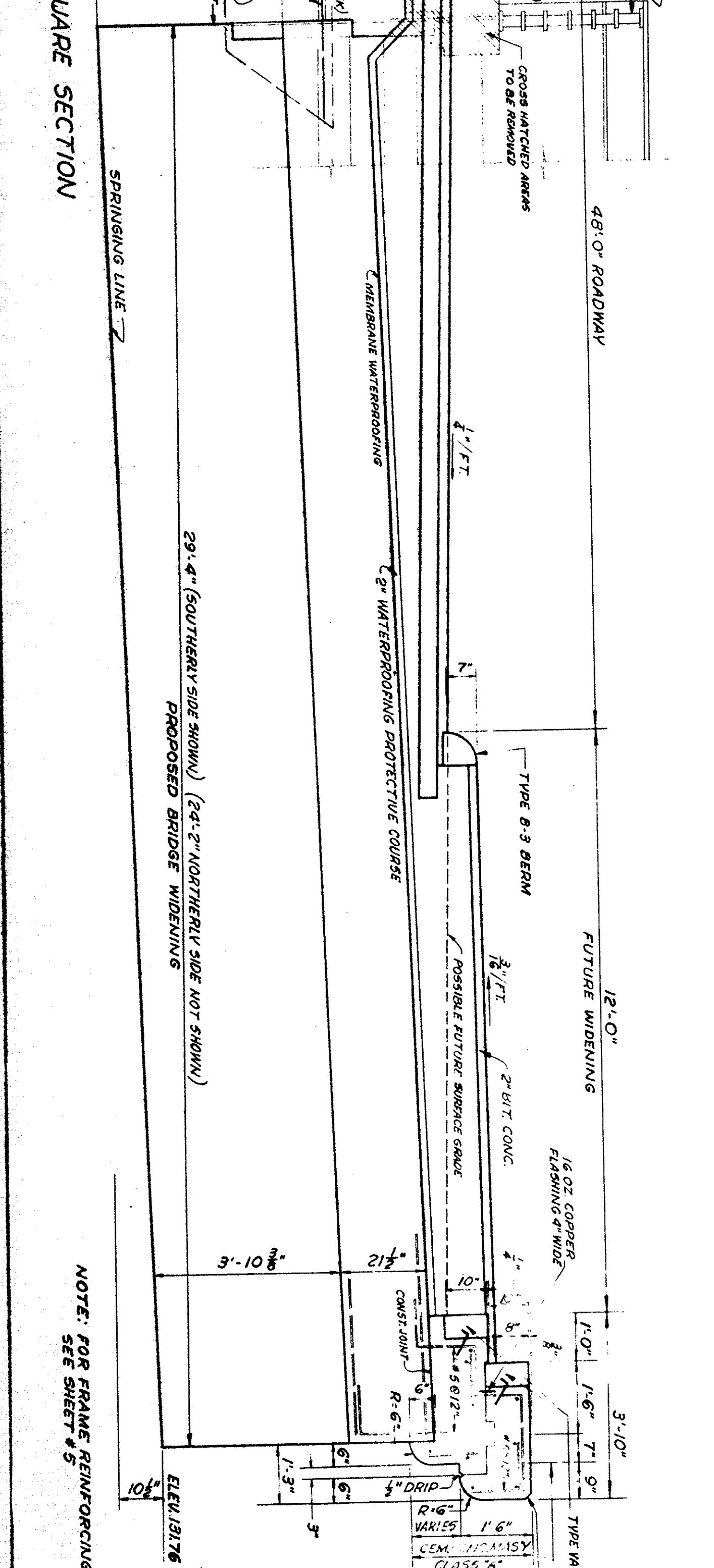
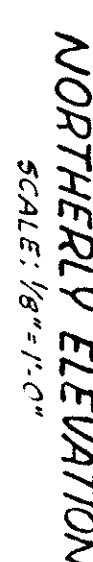
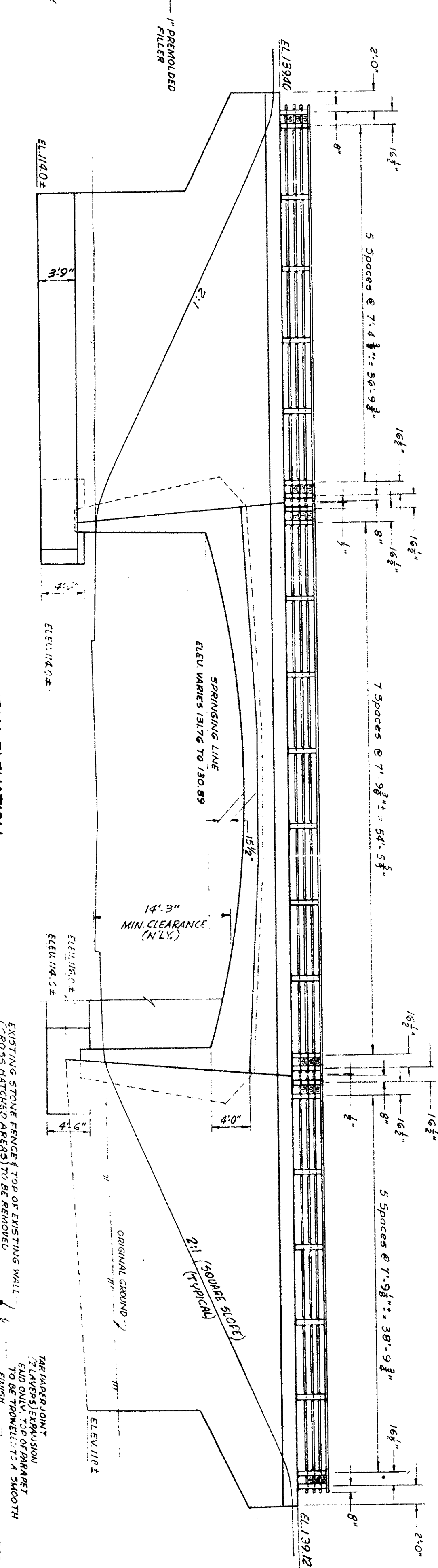
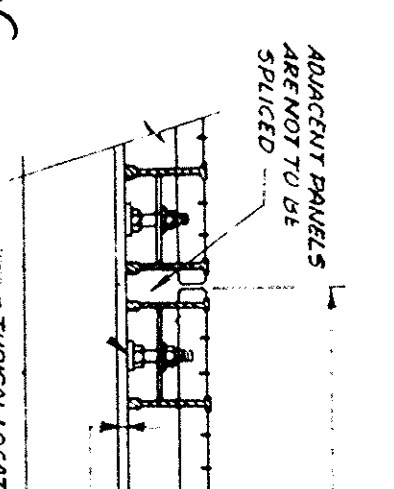
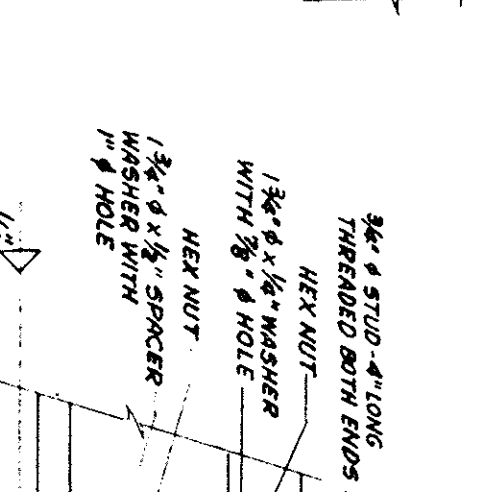
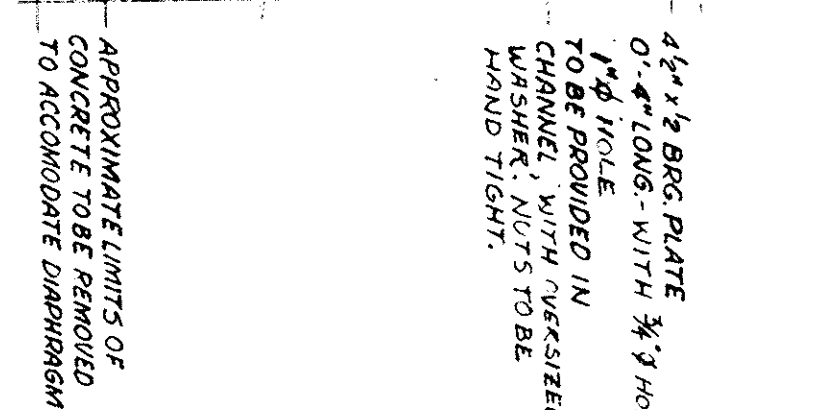
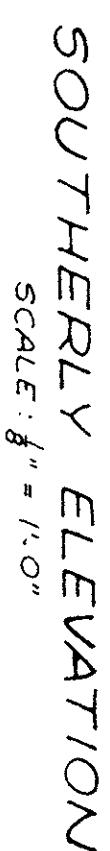
BORING DATA

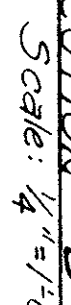
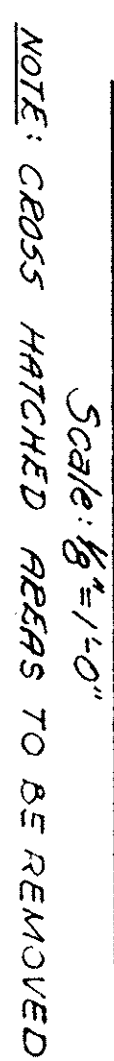
SCALE: 1/4" = 1'-0"

BORINGS TAKEN JULY 1958
FOR BORING NOTES SEE SHEET #1
BORING & CONSTRUCTION CORPORATION

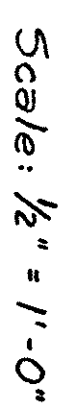
PLAN

SCALE: 1/8" = 1'-0"





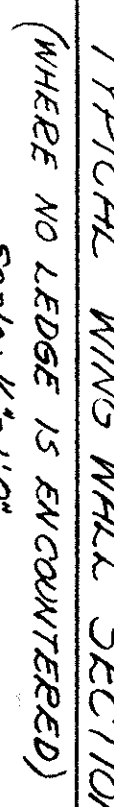
NOTE: CROSS HATCHED PORTIONS OF EXISTING FOOTING & WINGWALL TO BE REMOVED



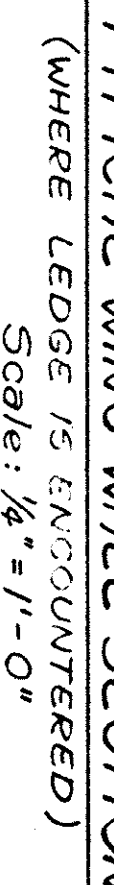
NOTE: CROSS HATCHED AREAS TO BE REMOVED



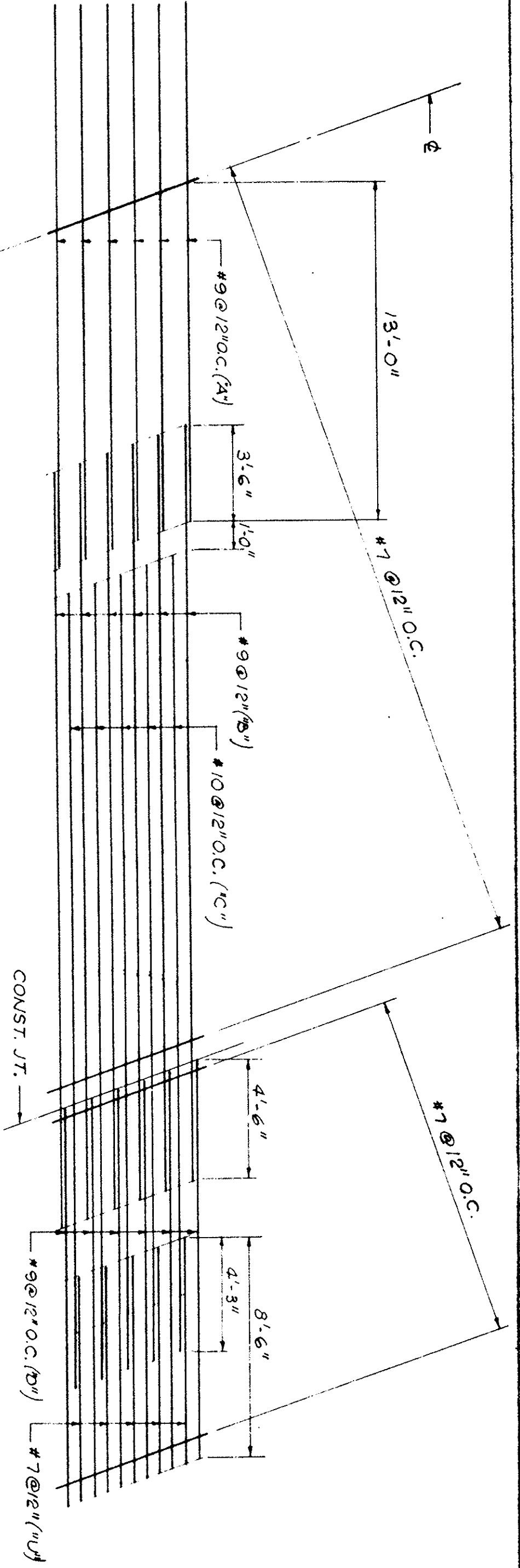
NOTE: CEAS HATCHED AREAS TO BE REMOVED



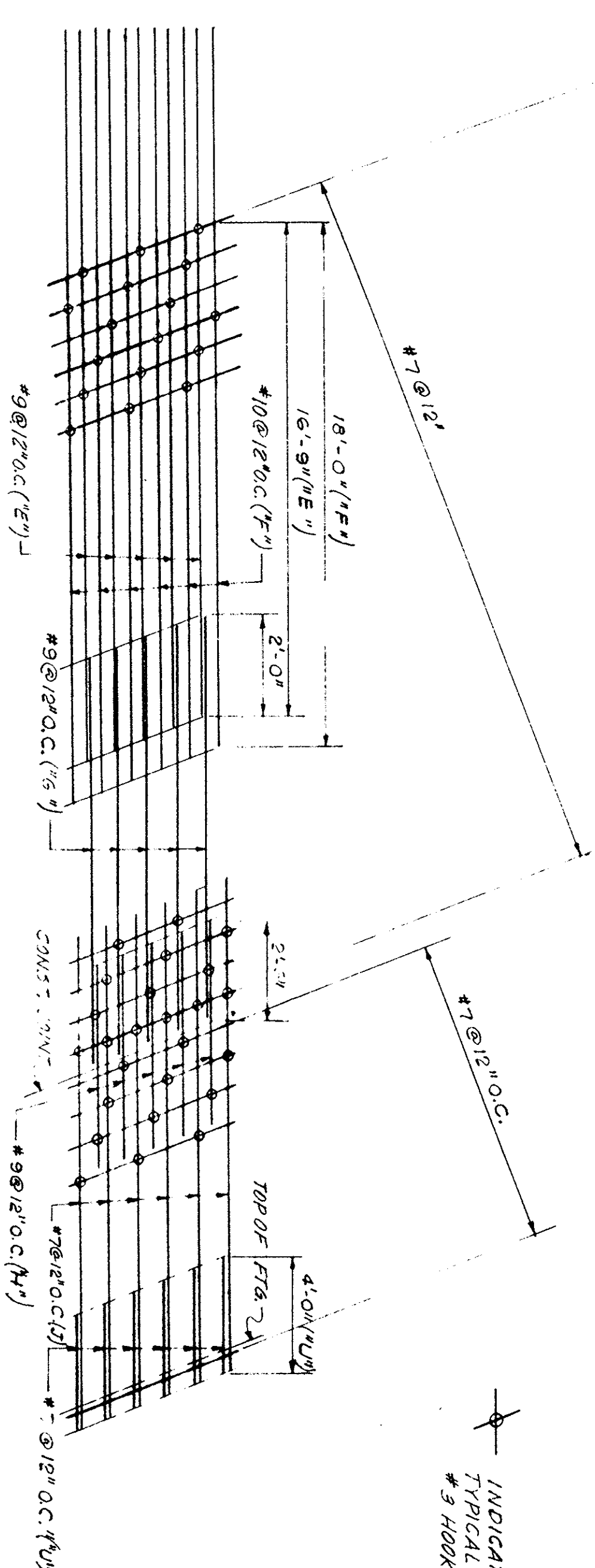
NOTE: TYPE OF FOUNDATION FOR NORTHERLY WINGWALLS WILL BE GOVERNED BY SUBSURFACE CONDITIONS ENCOUNTERED IN THE FIELD.



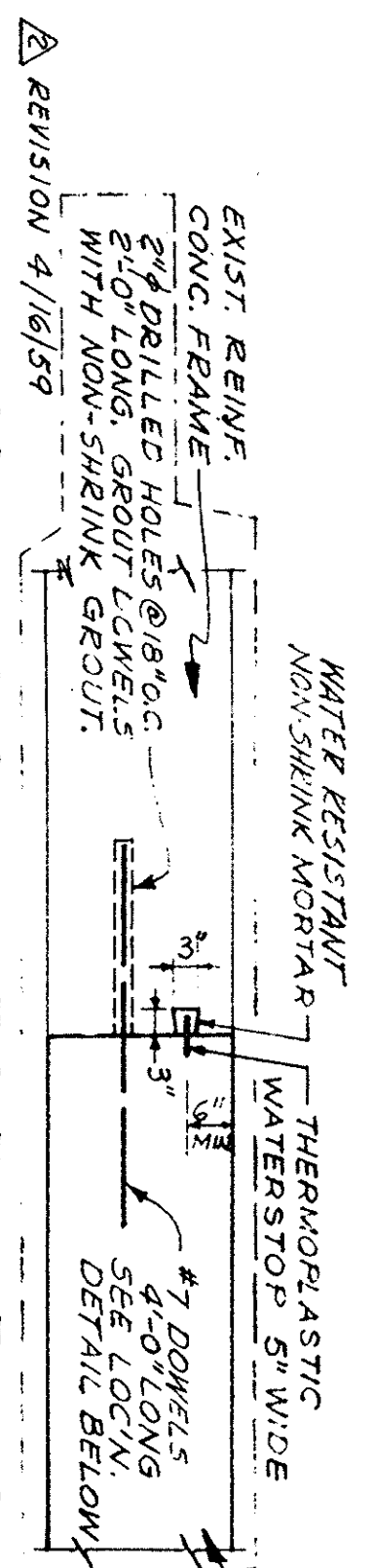
(WHERE LEDGE IS ENCOUNTERED)
Scale: $\frac{1}{4}'' = 1'-0''$



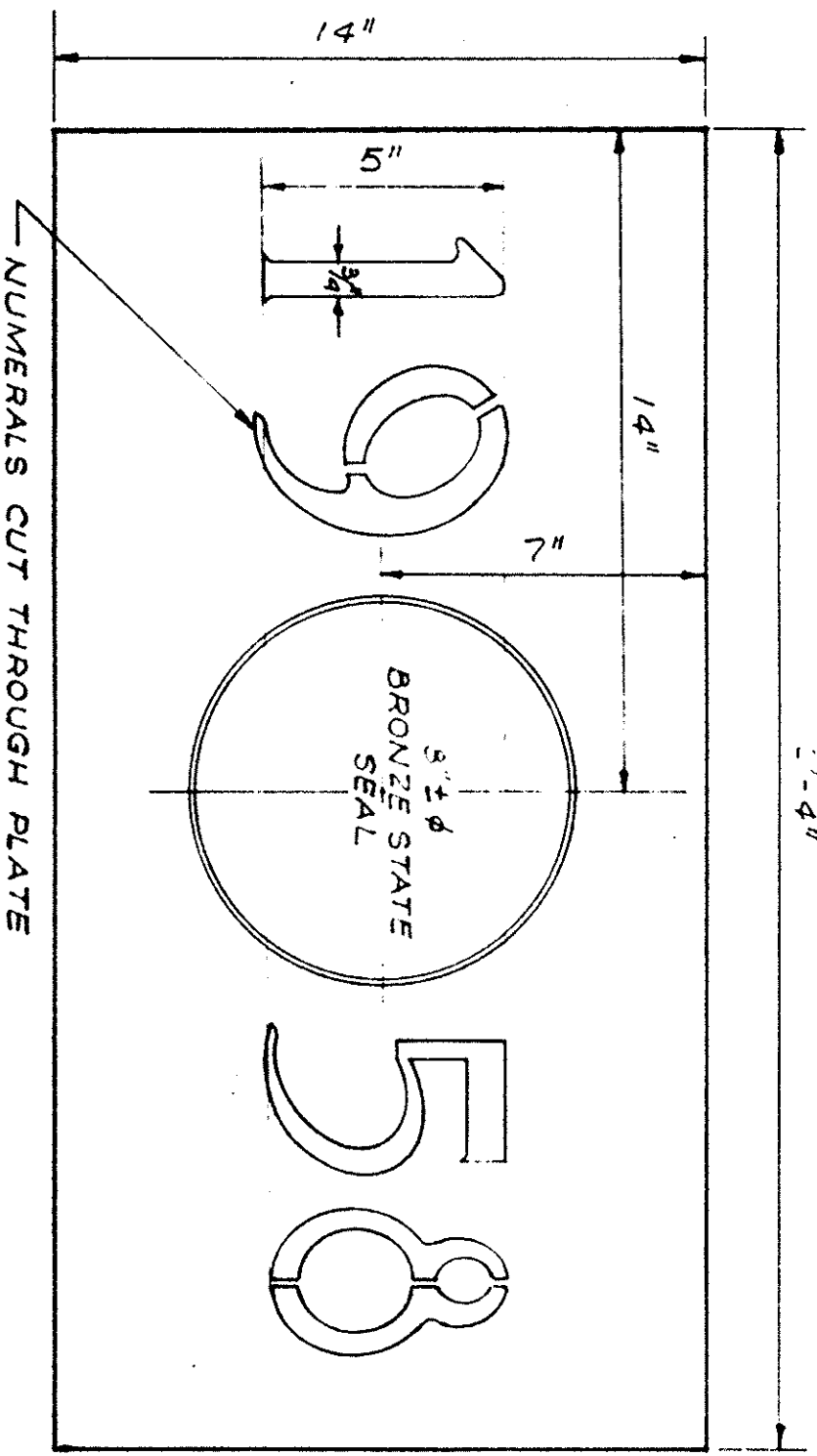
PATTERN OF REINFORCING STEEL - EXTRADOS
SCALE: 1/4" = 1'-0"



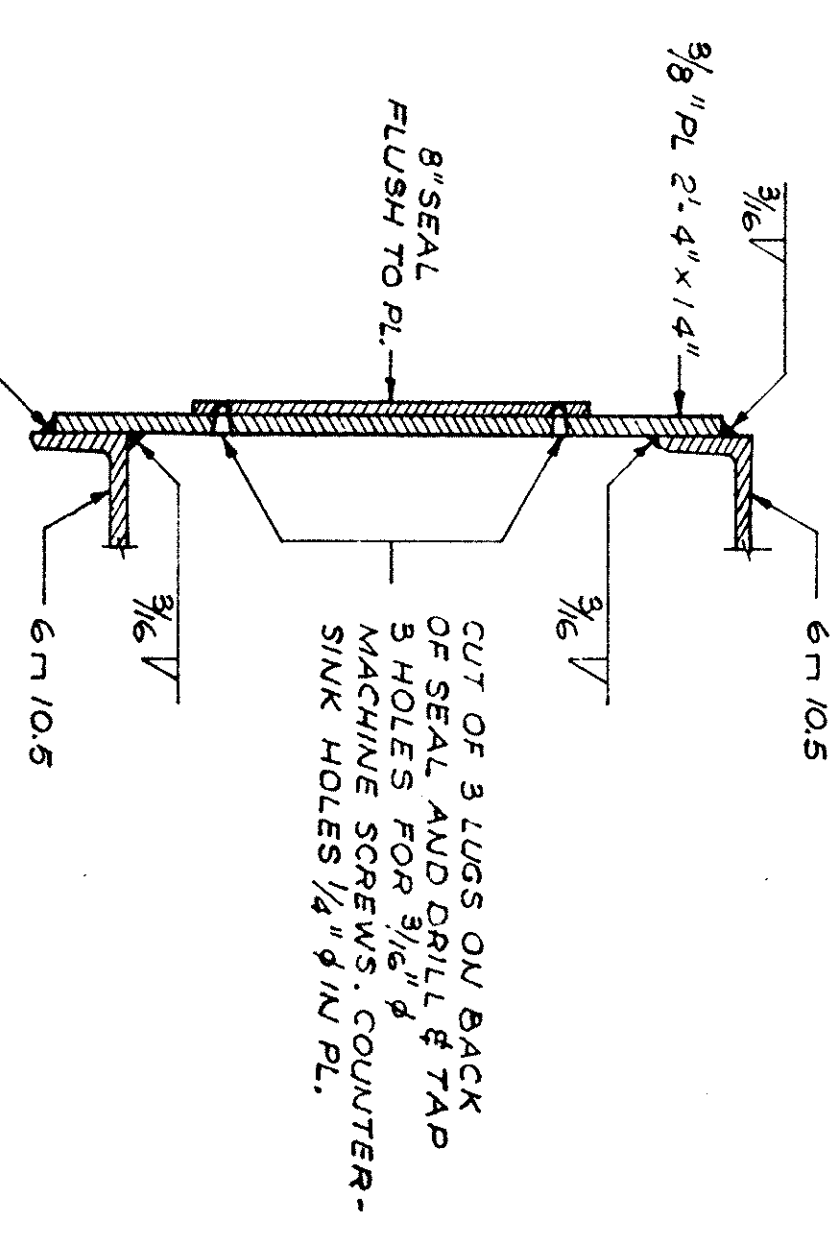
PATTERN OF REINFORCING STEEL - INTRADOS
SCALE: 1/4" = 1'-0"



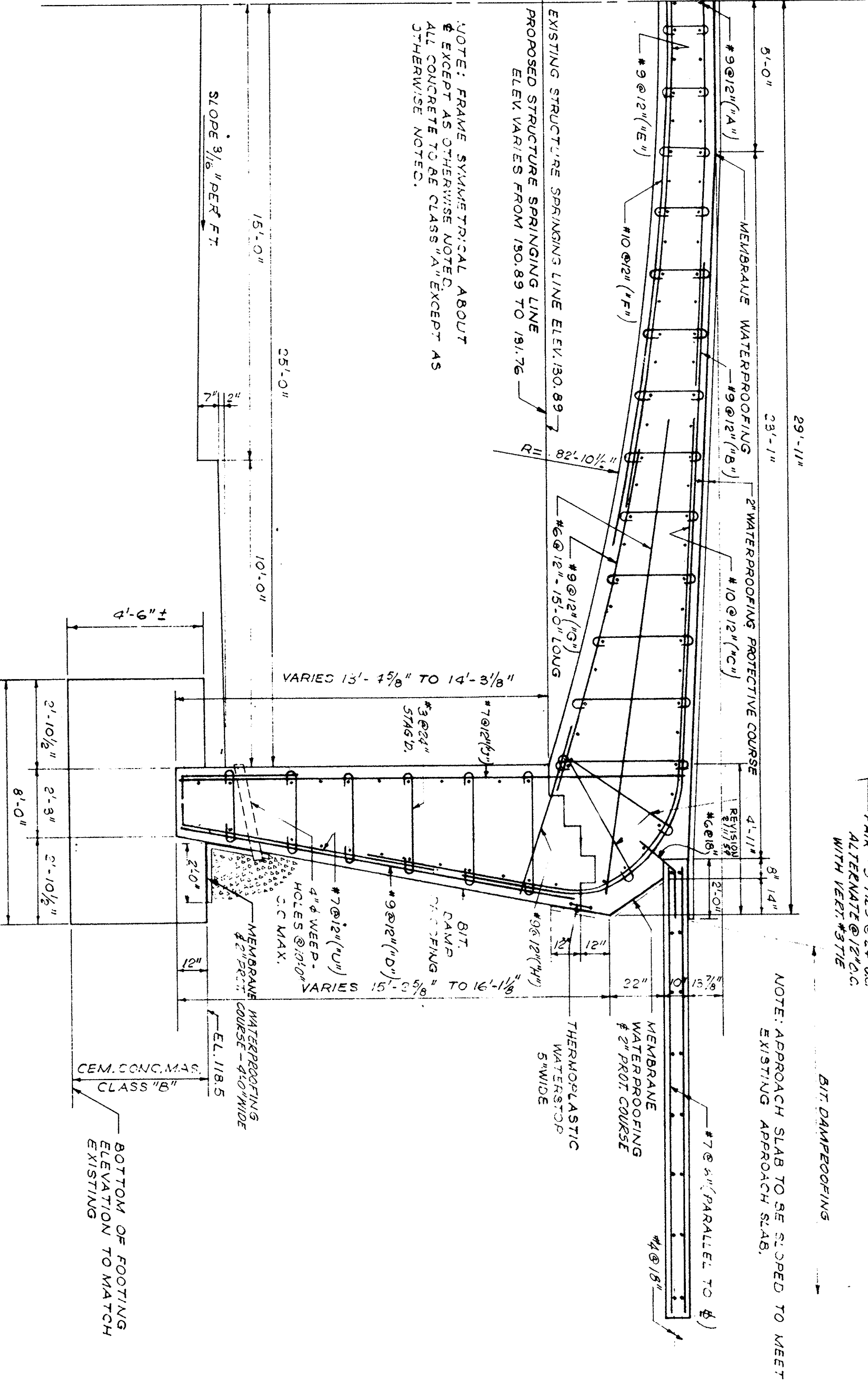
CONSTRUCTION JOINT DETAIL AT JUNCTION
OF NEW WORK TO EXISTING FRAME
SCALE: 1/2" = 1'-0"



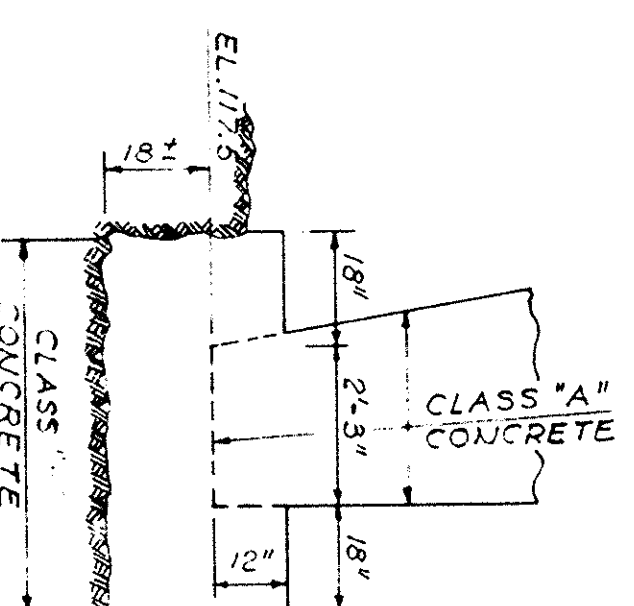
DETAIL OF BRIDGE DATE AND SEAL
SCALE: 3/4" = 1'-0"



DETAIL OF BRIDGE DATE AND SEAL
SCALE: 3/4" = 1'-0"



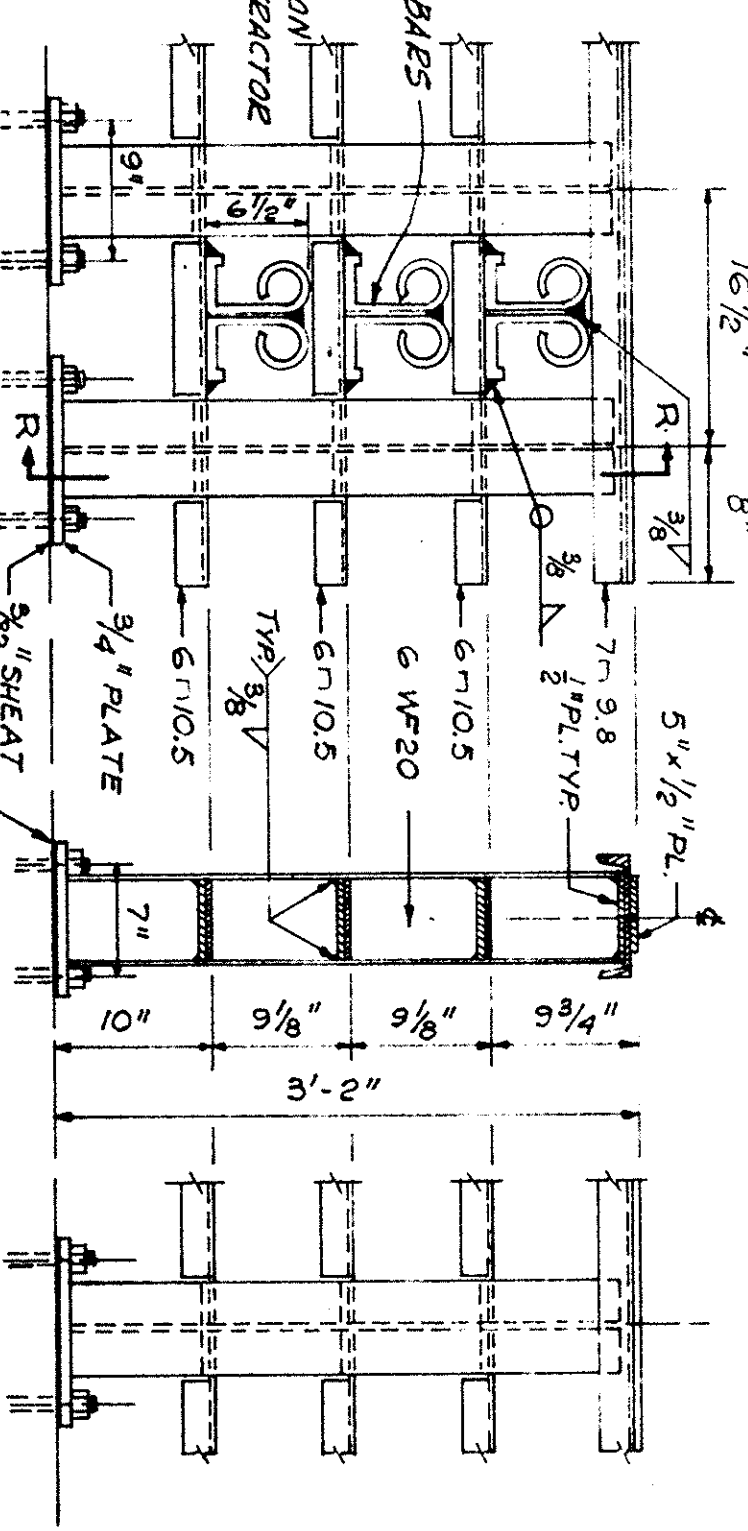
SQUARE HALF SECTION
SCALE: 3/8" = 1'-0"



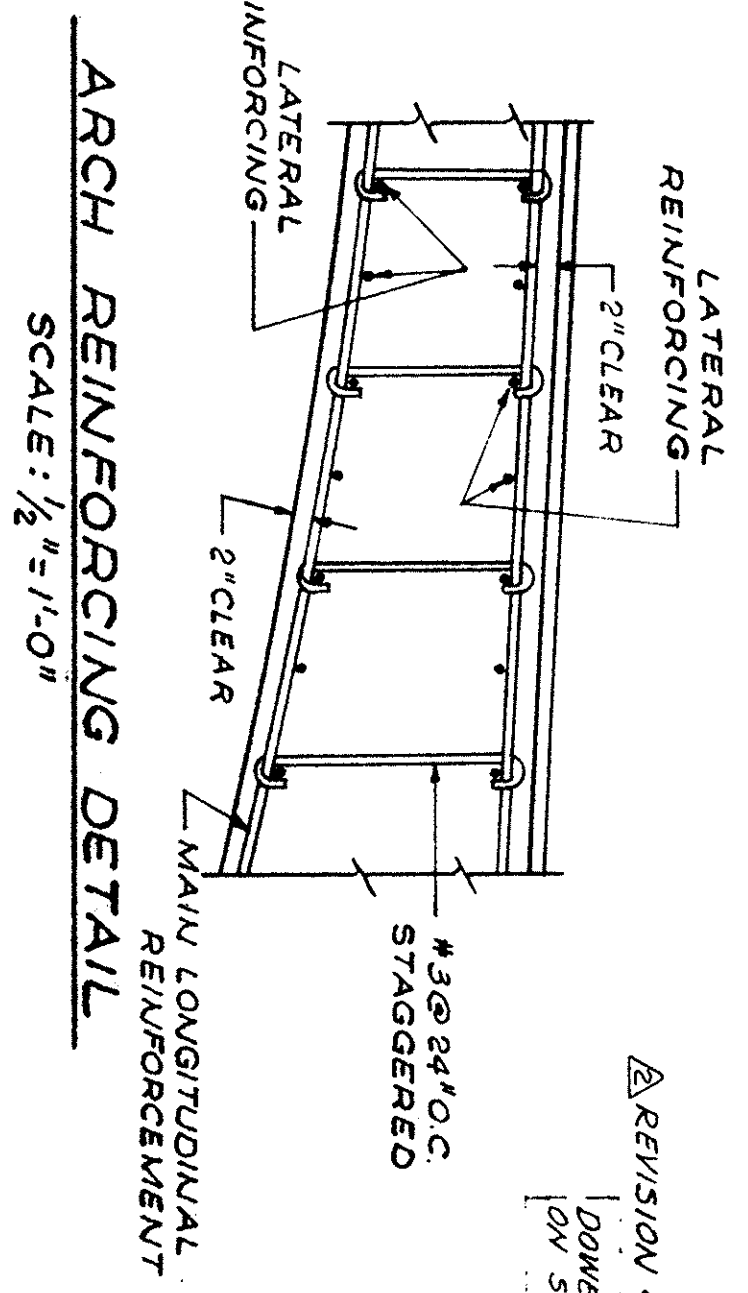
DETAIL OF FOOTING ON LEDGE
SCALE: 3/8" = 1'-0"

POST BASE
SCALE: 1/2" = 1'-0"

PLAN OF TOP RAILING
SCALE: 1/2" = 1'-0"



STANDARD METAL BRIDGE RAILINGS
TYPE A
SCALE: 1/2" = 1'-0"

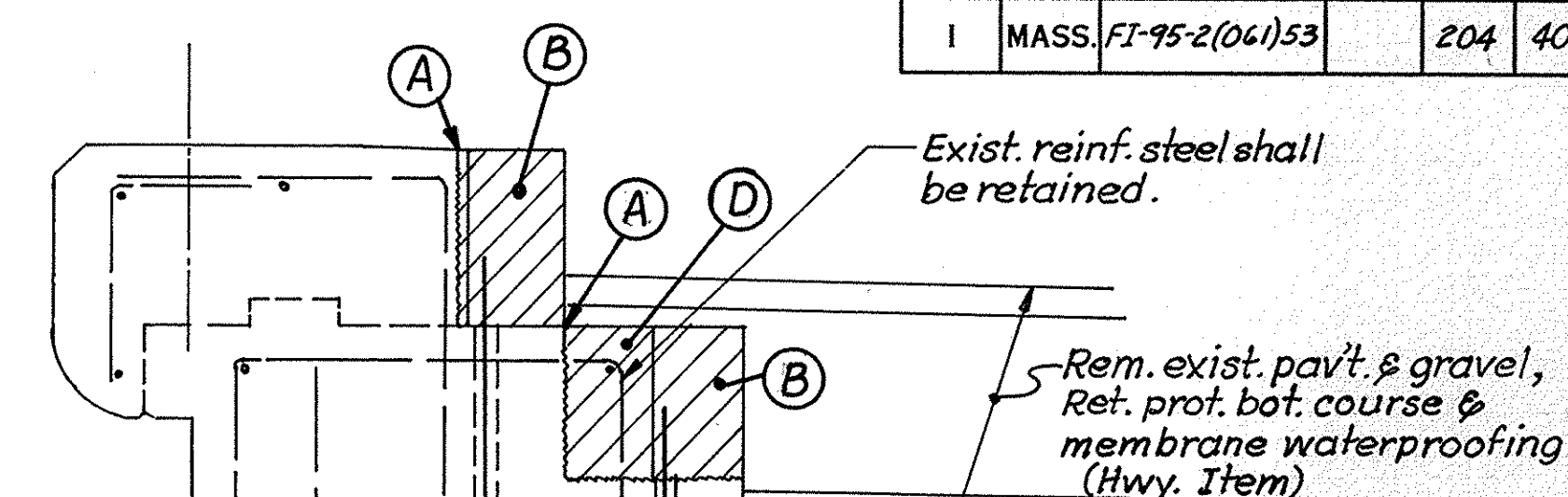


ARCH REINFORCING DETAIL
SCALE: 1/2" = 1'-0"

LYNNFIELD NORTHERN CIRCUMFERENTIAL HIGHWAY					
PUB. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
I	MASS.	FI-75-2(061)53		204	408

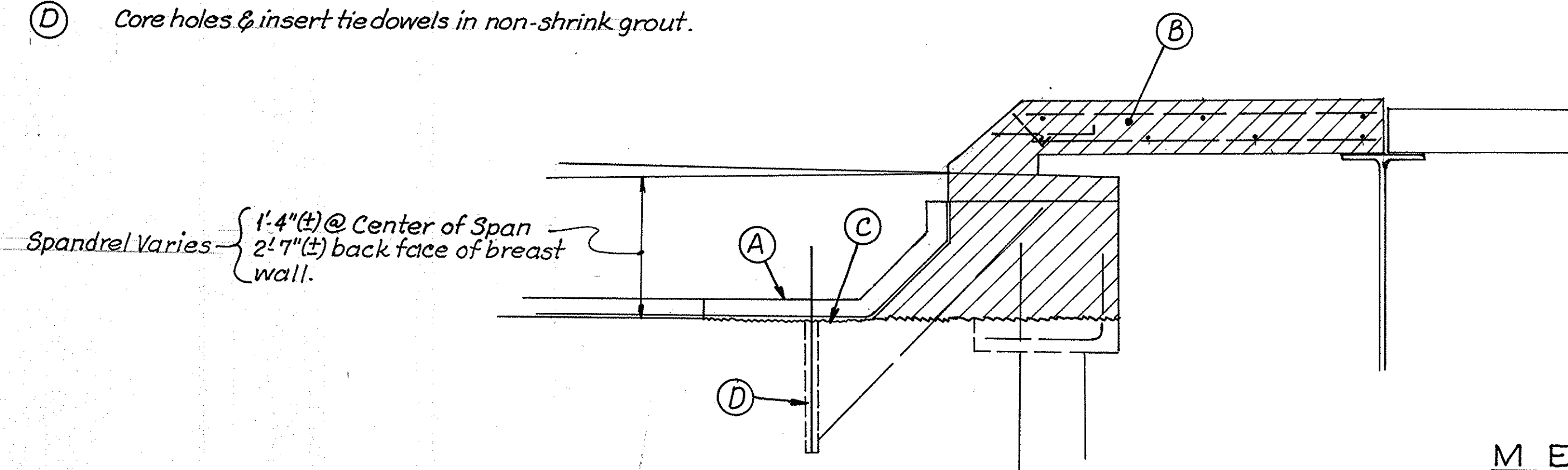
- (A) Remove existing Protective Course and Membrane Waterproofing. (Bridge Pav't. Exc.)
- (B) Remove existing reinforced concrete.
- (C) Existing concrete surface to be artificially roughened.
- (D) Core holes & insert tie dowels in non-shrink grout.

- (A) Core holes and insert tie dowels in non-shrink grout.
- (B) Saw cut 1" deep.
- (C) Remove existing reinforced concrete slab and bent plate edging as indicated, retain transverse reinforcing steel.
- (D) Remove existing gravel. (Bridge Pav't. Exc.)
- (E) Remove existing Protective Course and Membrane Waterproofing. (Bridge Pav't. Exc.)
- (F) Remove existing reinforced concrete wall as indicated.
- (G) Existing concrete surface to be artificially roughened.
- (H) Core holes and insert tie dowels in non-shrink grout.



- (A) Saw cut 1" deep.
- (B) Remove and stack existing VA-5 curb.
- (C) Core holes & insert tie dowels in non-shrink grout.
- (D) Remove existing concrete as indicated, retain reinforcing steel.
- (E) Core holes & insert tie dowels in non-shrink grout.

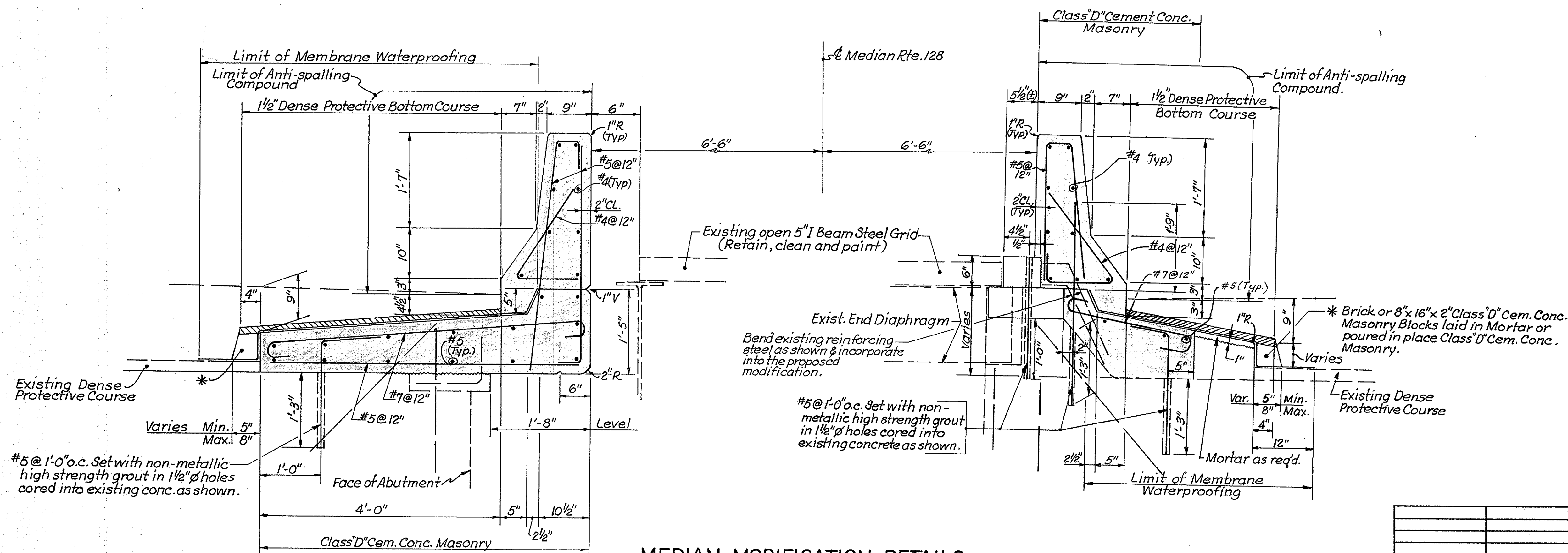
COPING



MEDIAN

SEQUENCE OF CONSTRUCTION OPERATIONS

(Scale: 1" = 1'-0")



MEDIAN MODIFICATION DETAILS

(Scale: 1" = 1'-0")

DATE	ISSUED FOR CONSTRUCTION
DESCRIPTION	
USE ONLY PRINTS OF LATEST DATE	

PEABODY

LYNNFIELD

LYNN

BEGIN PROJECT
STA 54+55.34
N 3013177.0665
E 786325.3509

END PROJECT
STA 626+94.57
N 3013744.4948
E 793003.2971

SOUND BARRIER NO. 1

SOUND BARRIER NO. 2

BRIDGE NO. L-19-007

RETAINING WALL

PEABODY POND

LYNN POND

SANTAUX LAKE

LOCKLEY ROAD

WOBURN STREET

SALEM STREET

MAIN STREET

LYNN AVENUE

ROUTE 1

ROUTE 29

ROUTE 8

ROUTE 128

ROUTE 129

ROUTE 130

ROUTE 131

ROUTE 132

ROUTE 133

ROUTE 134

ROUTE 135

ROUTE 136

ROUTE 137

ROUTE 138

ROUTE 139

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ROUTE 359

ROUTE 360

ROUTE 361

Plan view of the proposed bridge structure. The diagram shows the bridge crossing Summer St. Key features and dimensions include:

- Bridge No.:** L-19-007
- Stationing:** 211+00 and 210+00 are marked along the bridge axis.
- Existing Features:**
 - EXISTING WINGWALL FOOTING (BELOW) (TYP.)
 - EXIST. TRAFFIC COUNT-BOX
 - EXISTING BRIDGE BARRIER
- Proposed Features:**
 - PROP. SOUND BARRIER (TYP.)
- Dimensions:**
 - 15'-0" MAX. (width of existing wingwall footing)
 - 10'-2" (width of existing traffic count-box)
 - 7'-0" (width of proposed sound barrier)
 - 15'-0" MAX. (width of existing bridge barrier)
- Orientation:** A north arrow is shown in the upper left corner.
- Location:** The bridge is located on I-95 (RTE-128) SOUTHBOUND, crossing Summer St.

GROUND MOUNTED SOUND BARRIER

POSTS SPACED @ 10'-0" MAX = 130'-0" BRIDGE MOUNTED SOUND BARRIER

GROUND MOUNTED SOUND BARRIER

PROP. POST ON WINGWALL (TYP.)

PROP. SOUND BARRIER PANEL ON BRIDGE AND WINGWALL (TYP.)

PROP. TOP OF SOUND BARRIER 12'-0" FROM TOP OF ROADWAY @ EDGE OF PAVEMENT

PROPOSED POST ON BRIDGE (TYP.)

FINISHED GRADE

CL DRILLED SHAFT (TYP.)

PROPOSED GROUND MOUNTED POST (TYP.)

3'-6" (MIN.)

EXISTING WINGWALL (TYP.)

CL SUMMER ST.

EXISTING BRIDGE

PROP. GROUND MOUNTED SOUND BARRIER PANEL (TYP.)

PROP. DRILLED SHAFT (TYP.)

12'-0"

PROP. SOUND BARRIER

SOUND BARRIER PANEL ON WINGWALL (TYP.)

POST ON WINGWALL

EXIST. BRIDGE BARRIER

I-95 SOUTHBOUND

EXISTING WINGWALL

1/4

12'-0"

PROPOSED SOUND BARRIER

SOUND BARRIER PANEL ON BRIDGE (TYP.)

POST ON BRIDGE

EXIST. BRIDGE BARRIER

I-95 SOUTHBOUND

EXISTING CONCRETE ARCH BRIDGE

2/4

LYNNFIELD/PEABODY SOUND BARRIER				
STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
MASS.	STP-95-2(107)	2005	22	29
PROJECT FILE NO. 604381				

SOUND BARRIER BRIDGE DETAILS

NOTES:

1. BRIDGE INFORMATION AND DIMENSIONS SHALL BE FIELD VERIFIED BY CONTRACTOR PRIOR TO FABRICATION. SUBSURFACE CONDITIONS MAY VARY. THE CONTRACTOR IS RESPONSIBLE FOR LOCATING EXISTING FEATURES IN THE FIELD PRIOR TO SHAFT LOCATION AND SOUND BARRIER ERECTION.
2. THE INSTALLED SOUND BARRIER SYSTEM DESIGN DEAD LOAD ON THE BRIDGE IS 30 POUNDS PER SQUARE FOOT. IF THE PROPOSED SOUND BARRIER SYSTEM WEIGHS MORE THAN THE DESIGN DEAD LOAD, THE CONTRACTOR SHALL PROVIDE CALCULATIONS, STAMPED BY A PROFESSIONAL STRUCTURAL ENGINEER REGISTERED IN THE COMMONWEALTH OF MASSACHUSETTS, VERIFYING THE ADEQUACY OF THE BRIDGE AND THE POST CONNECTIONS TO CARRY THE ADDITIONAL LOAD.
3. SOUND BARRIER MANUFACTURER TO PROVIDE TRANSITION PANELS AND SUPPORTS (IF REQUIRED) TO TRANSFER FROM THE BRIDGE MOUNTED TO GROUND MOUNTED SOUND BARRIER AT THE ENDS OF BRIDGE.



VANASSE HANGEN BRUSTLIN, INC.
DESIGN ENGINEER
101 WALNUT STREET
WATERTOWN, MASS

10-15-05	ISSUED FOR CONSTRUCTION
----------	-------------------------



PROPOSED BRIDGE MODIFICATION
LYNNFIELD
I-95 SB / ROUTE 128 SB
OVER SUMMER STREET

THE COMMONWEALTH OF MASSACHUSETTS
MASSACHUSETTS HIGHWAY DEPARTMENT
10 PARK PLAZA, BOSTON, MASS.

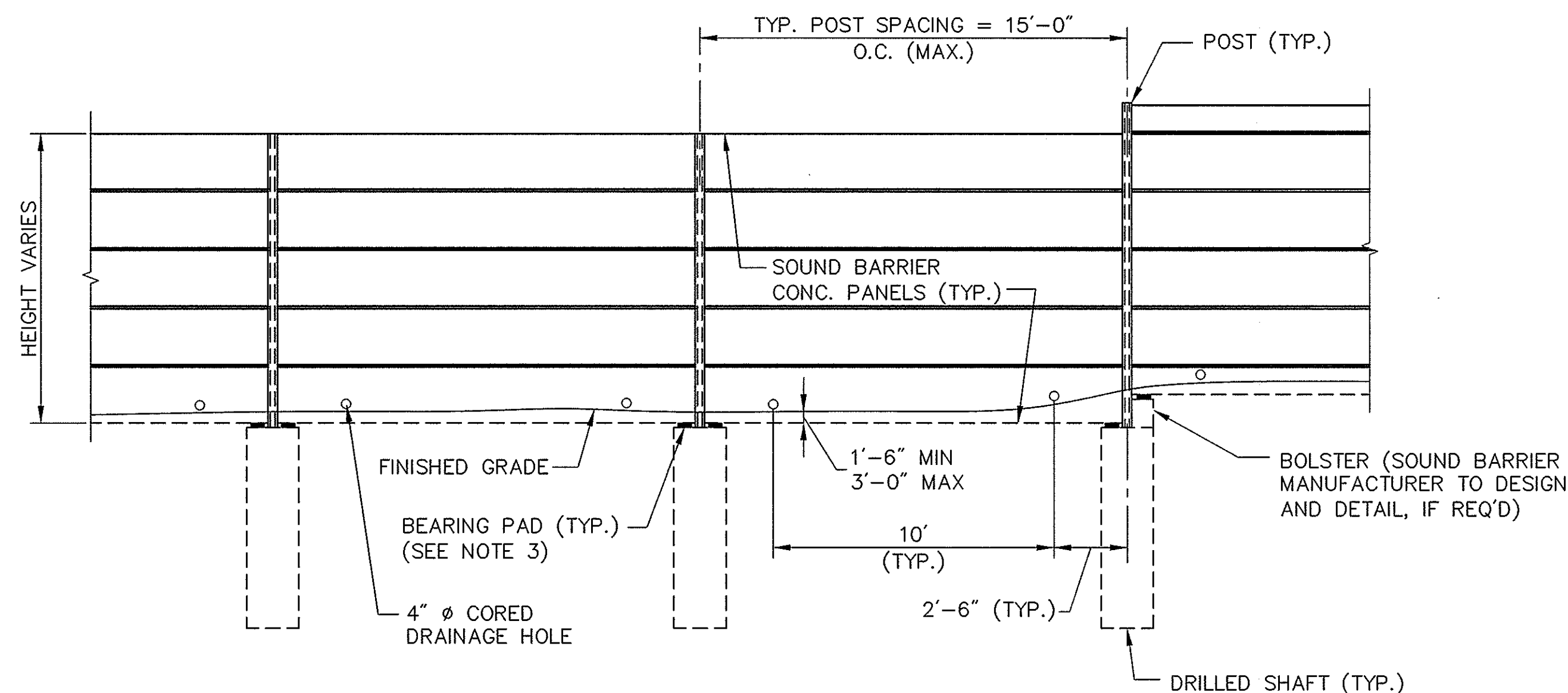
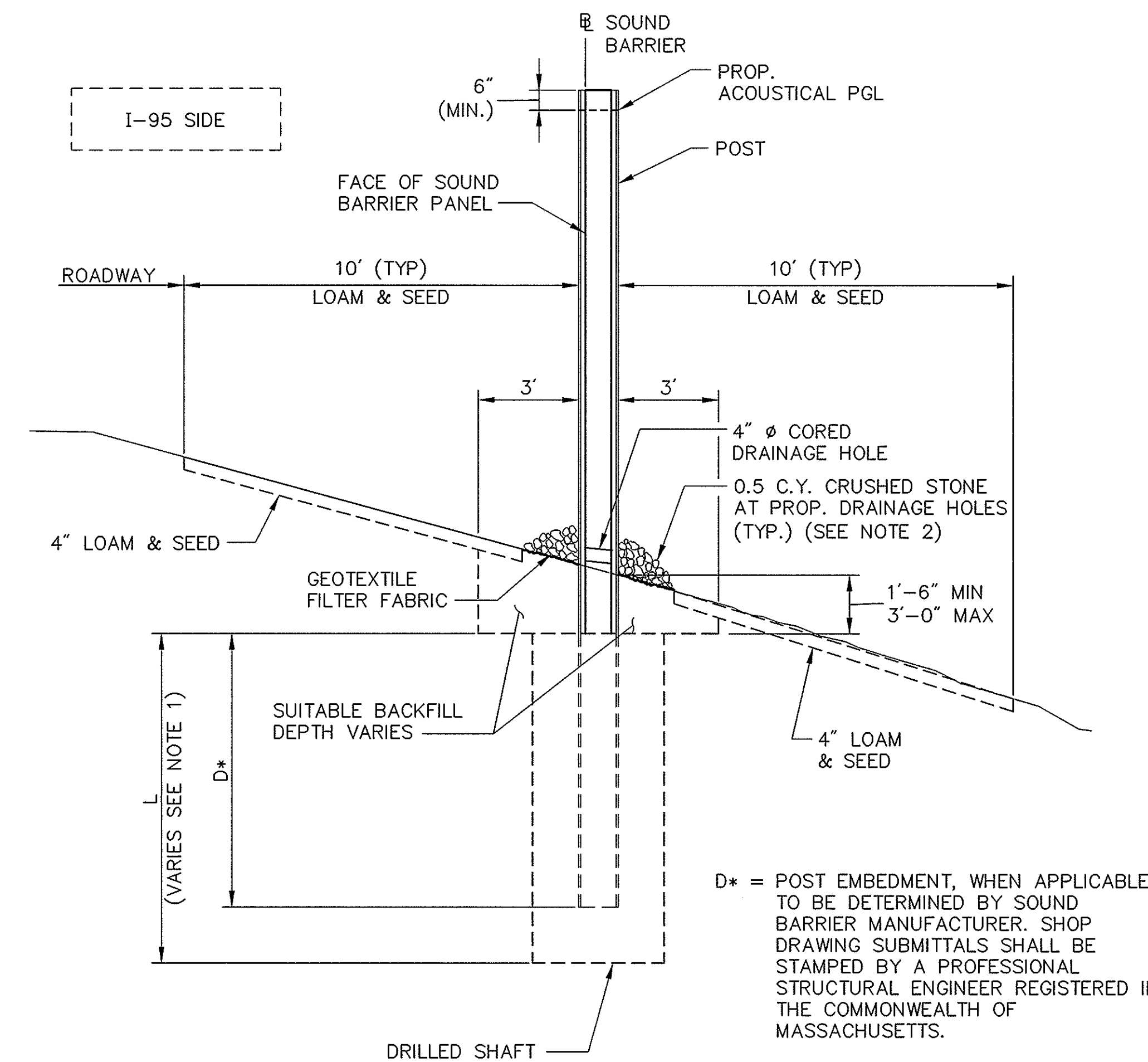
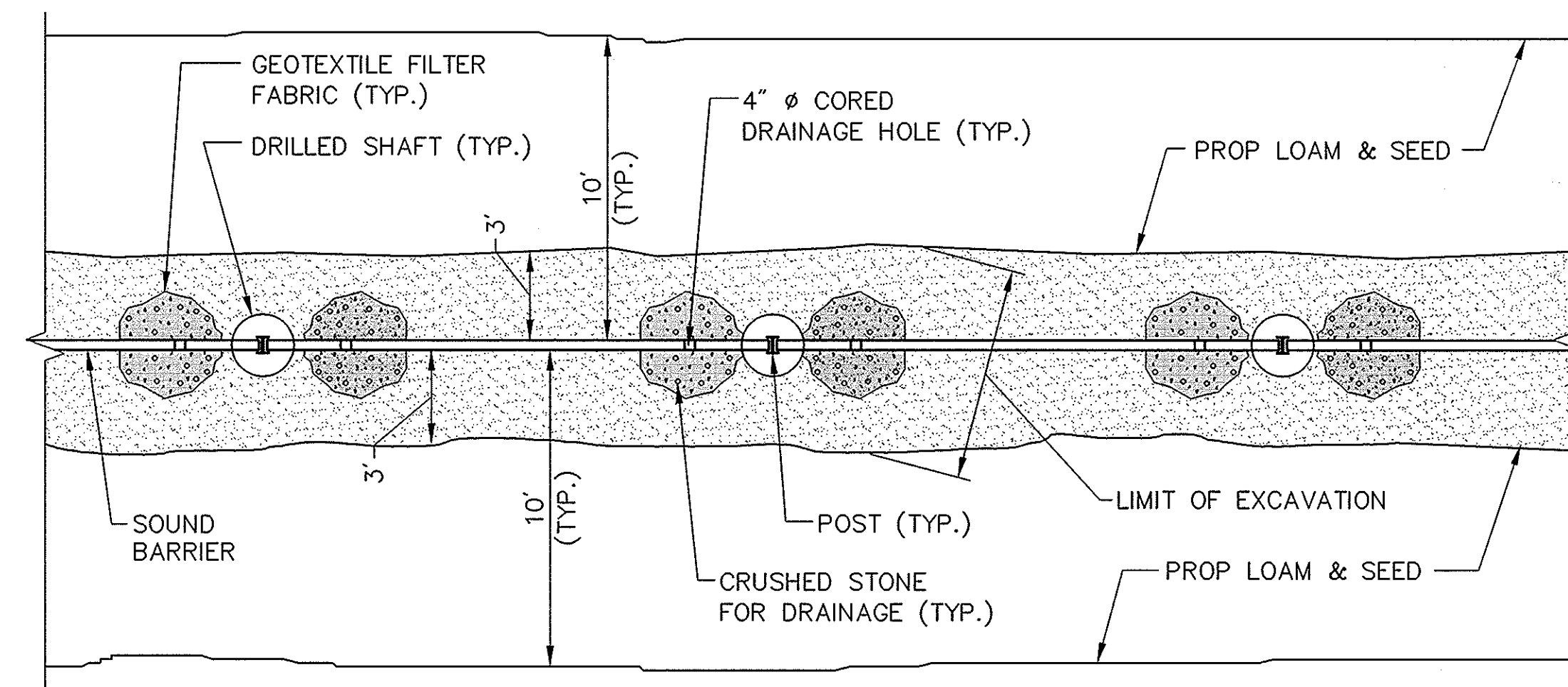
BRIDGE ENGINEER CHIEF ENGINEER

SHEET 1 OF 5 SHEETS BRIDGE NO. L-19-007 (2W7)

LYNNFIELD/PEABODY SOUND BARRIER

STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
MASS.	STP-95-2(107)	2005	23	29
PROJECT FILE NO. 604381				

SOUND BARRIER DETAILS



NOTES:

- FOR DRILLED SHAFT LENGTHS, SEE SHEET 5 OF 5.
- 0.5 C.Y. OF CRUSHED STONE AND GEOTEXTILE FILTER FABRIC SHALL BE PLACED AT EACH DRAINAGE HOLE ON THE BOTH SIDES OF THE BARRIER
- SOUND BARRIER MANUFACTURER TO SIZE THE BEARING PAD IN ACCORDANCE WITH SPECIAL PROVISIONS.

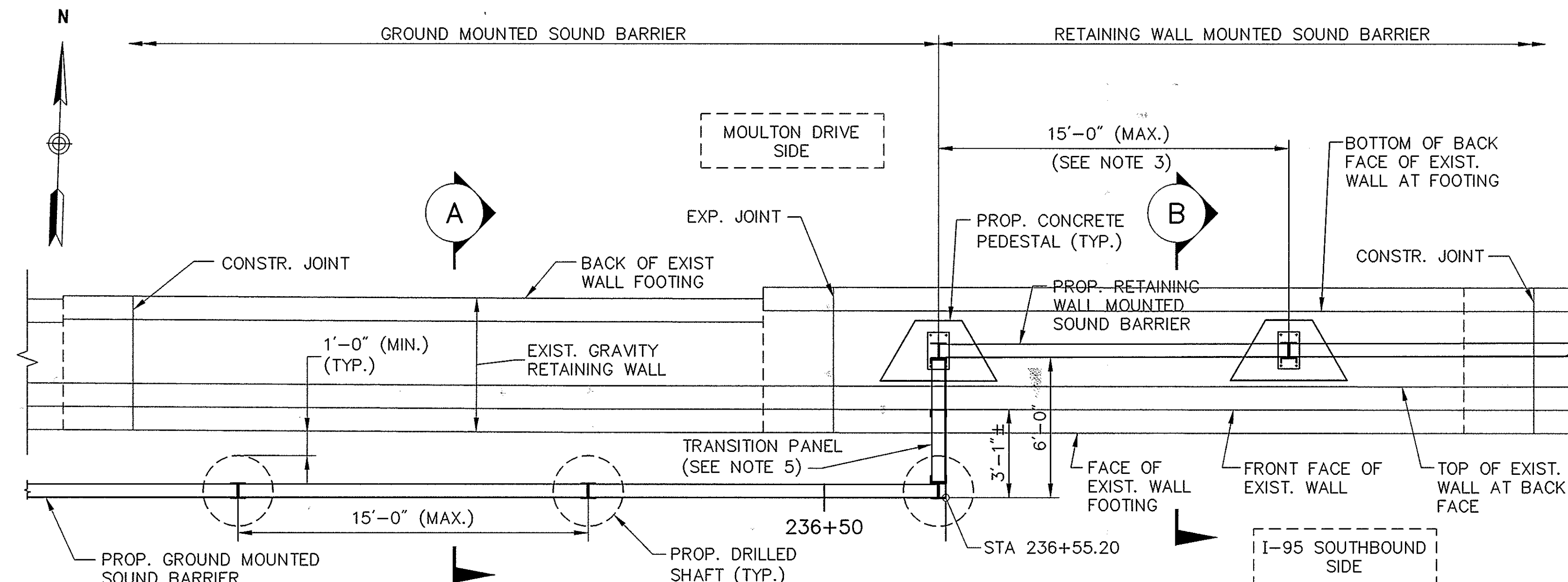
TYPICAL SOUND BARRIER – GROUND MOUNTED

10-15-05	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION
USE ONLY PRINTS OF LATEST DATE	

LYNNFIELD/PEABODY SOUND BARRIER

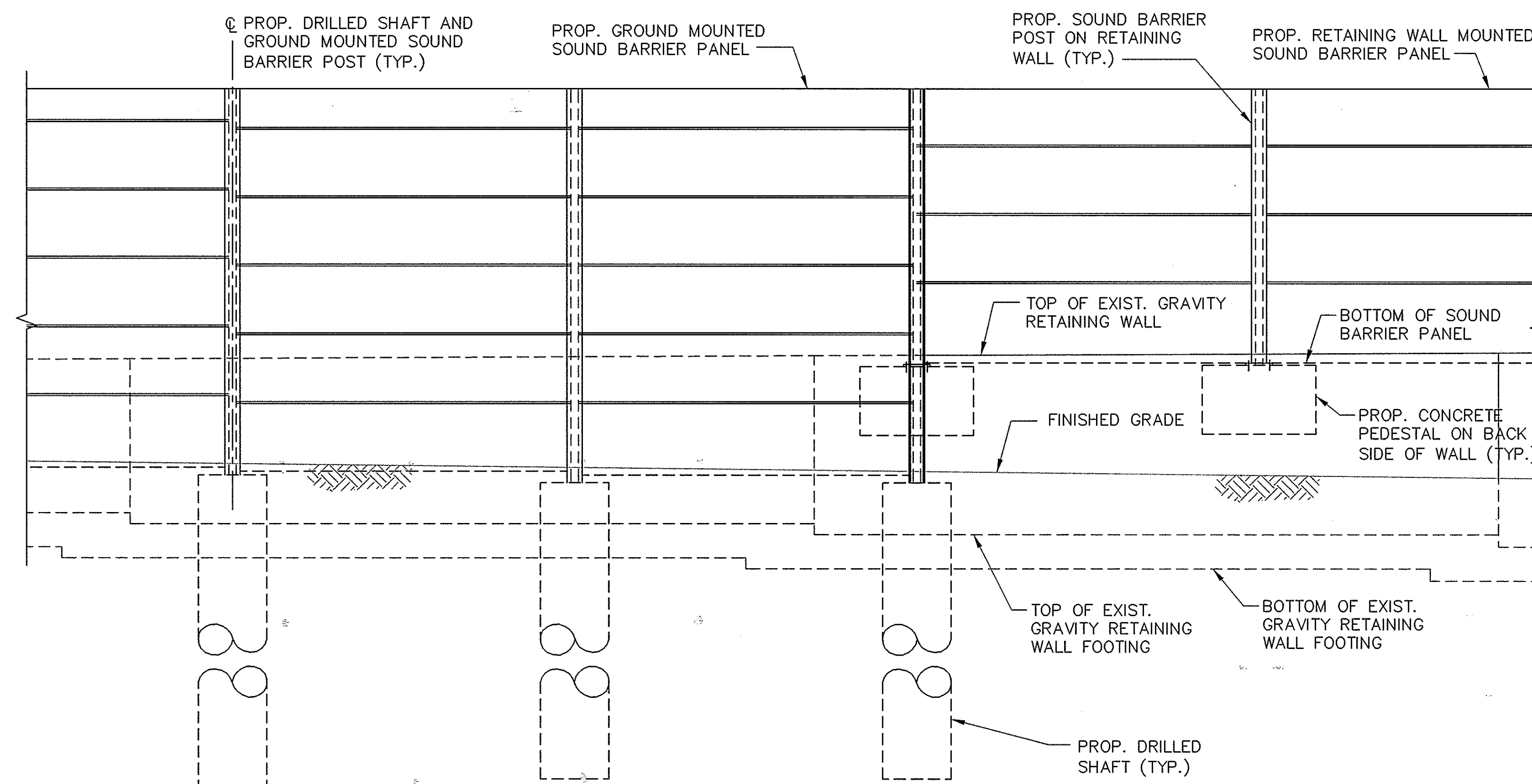
STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
MASS.	STP-95-2(107)	2005	24	29
PROJECT FILE NO. 604381				

SOUND BARRIER RETAINING WALL DETAILS



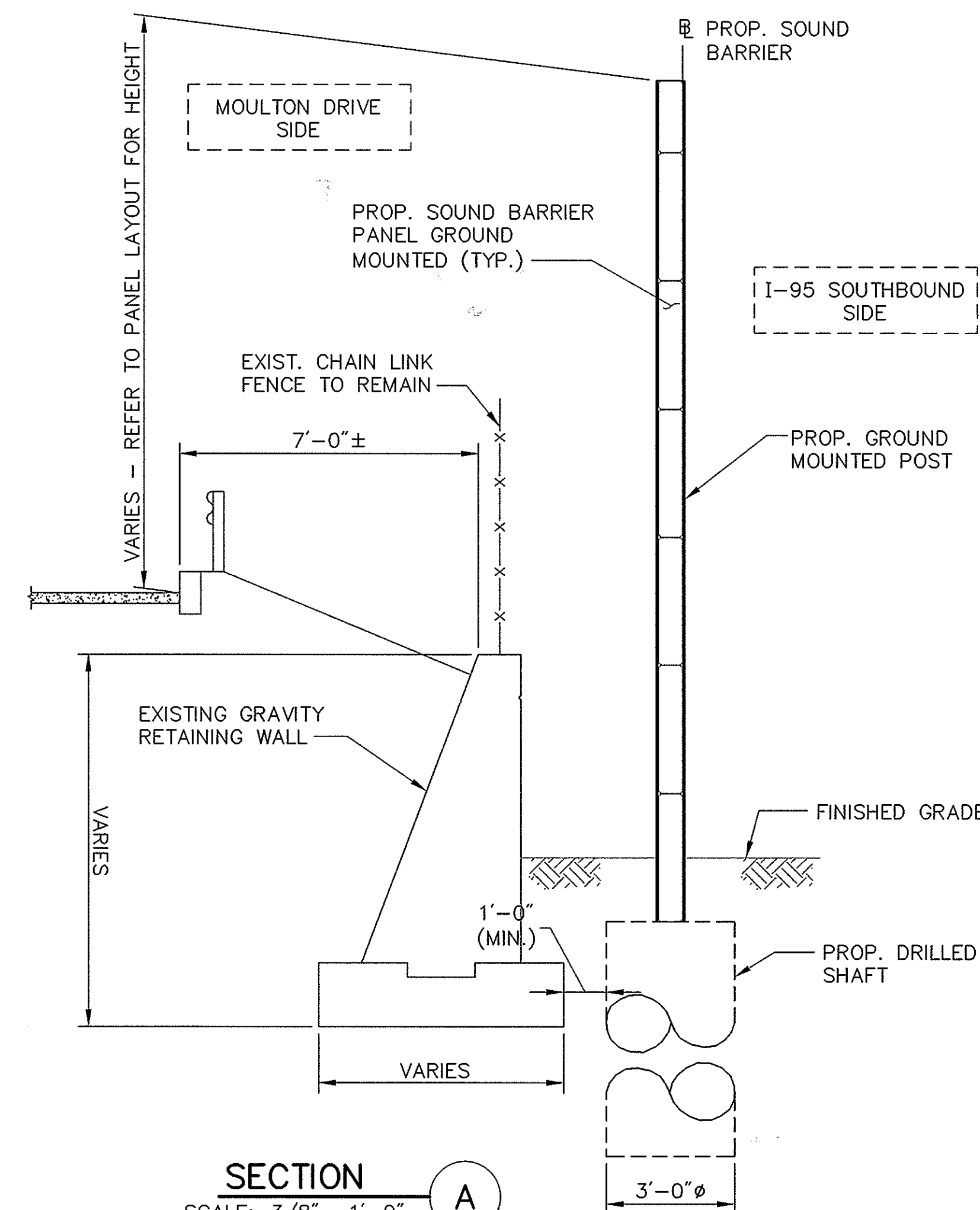
**SOUND BARRIER RETAINING WALL
TRANSITION - PLAN**

SCALE: 1/4" = 1'-0"



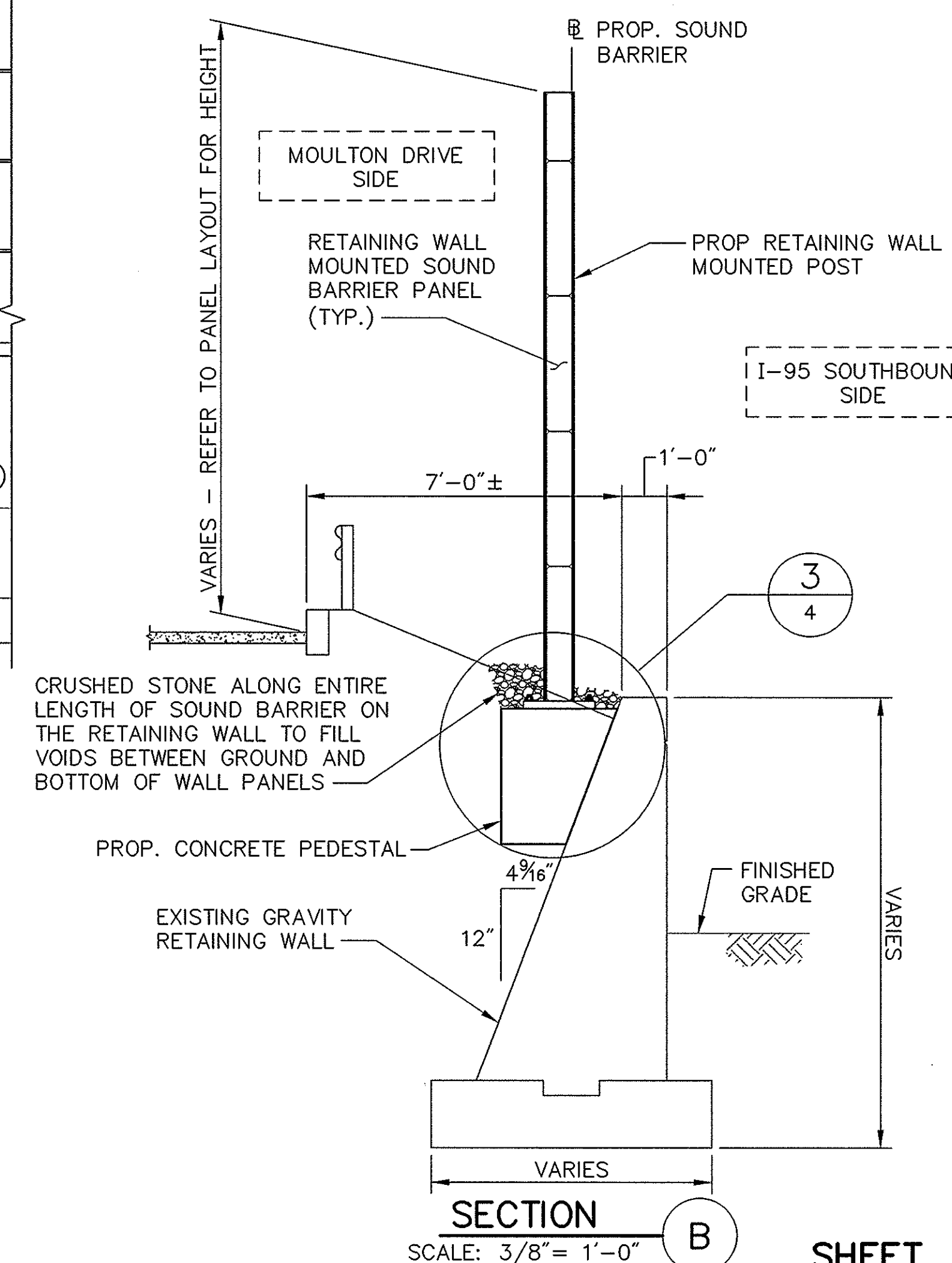
**SOUND BARRIER AT RETAINING
WALL TRANSITION - ELEVATION**

SCALE: 1/4" = 1'-0"



SECTION A

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



SECTION B

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

NOTES:

1. FOR DRILLED SHAFT DEPTHS SEE SHEET 5 OF 5.
2. SEE TYPICAL SOUND BARRIER DETAILS SHEET 2 OF 5.
3. LOCATE POSTS ON THE RETAINING WALL SO THEY DO NOT INTERFERE WITH THE EXISTING SLEEVES FOR THE CHAIN LINK FENCE.
4. RETAINING WALL INFORMATION AND DIMENSIONS SHALL BE FIELD VERIFIED BY CONTRACTOR PRIOR TO FABRICATION. SUBSURFACE CONDITIONS MAY VARY. THE CONTRACTOR IS RESPONSIBLE FOR LOCATING EXISTING FEATURES IN THE FIELD PRIOR TO SHAFT LOCATION AND SOUND BARRIER ERECTION.
5. SOUND BARRIER MANUFACTURER TO PROVIDE TRANSITION PANELS AND SUPPORTS (IF REQUIRED) TO TRANSFER FROM THE GROUND MOUNTED TO WALL MOUNTED SOUND BARRIER.

10-15-05	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION
USE ONLY PRINTS OF LATEST DATE	

STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
MASS.	STP-95-2(107)	2005	25	29
PROJECT FILE NO. 604381				

3 SIDES (TYP.)

5/16

Ⓟ PROP. SOUND BARRIER
(FACE OF SOUND BARRIER PANEL)

L8x6x1/2 10" LONG (TYP.)

FLASHING BY SOUND BARRIER
MANUFACTURER (SEE NOTE 8)

DRILL AND GROUT 3/4" Ø ADHESIVE
ANCHOR BOLT MIN. ALLOWABLE
PULLOUT CAPACITY = 15
KIPS/BOLT (TYP.)

POST BY SOUND
BARRIER MANUFACTURER

SHIM AS REQUIRED TO
PROVIDE FULL BEARING

11"x8"x3/4" PLATE

(TYP.) 5/16

1/2"

10"x11 1/2"x1 1/2"
BASE PLATE

12" ±

12" (MIN.)

EMBED. (TYP.)

FILL VOID WITH CONTROLLED
DENSITY FILL
(ENTIRE LENGTH OF BRIDGE)

DETAIL ON BRIDGE

SCALE: 1 1/2" = 1'-0"

2
1

SCALE: $1\frac{1}{2}" = 1'-0"$

1. ALL STRUCTURAL STEEL ASSOCIATED WITH THE SOUND BARRIER SHALL CONFORM TO THE REQUIREMENTS OF AASHTO DESIGNATION M270 GRADE 50, UNLESS OTHERWISE NOTED.
2. ANCHOR BOLTS ARE TO BE SET BY TEMPLATE BEFORE CONCRETE IS PLACED.
3. ALL STEEL MEMBERS, CONNECTION PLATES AND ANCILLARY ITEMS SHALL BE GALVANIZED AND PAINTED PRIOR TO DELIVERY TO SITE IN ACCORDANCE WITH SPECIAL PROVISIONS.
4. EXTREME CARE SHALL BE TAKEN DURING ERECTION SO THAT THE FINISH OF THE MEMBERS IS NOT DAMAGED. ANY DAMAGE TO THE GALVANIZED AND OR PAINTED FINISH TO BE REPAIRED IN ACCORDANCE WITH THE SPECIAL PROVISIONS AND TO THE SATISFACTION OF THE ENGINEER.
5. THE SOUND BARRIER POSTS SHALL BE SET PLUMB.
6. POST – BASE PLATE WELD SIZE ASSUMES A MINIMUM POST DEPTH AND WIDTH OF 8". CONTRACTOR TO VERIFY WELD SIZE IS ADEQUATE FOR PROPOSED POST.
7. PROVIDE 1" GAP UNDER SOUND BARRIER PANELS TO BE POSITIONED ON BRIDGE TO ALLOW FOR DRAINAGE.
8. PROVIDE FLASHING FOR THE FULL LENGTH OF THE BRIDGE, INCLUDING WINGWALLS, TO SEAL GAP BETWEEN BRIDGE BARRIER AND FACE OF SOUND BARRIER PANEL. FLASHING MATERIAL TO BE PER SOUND BARRIER MANUFACTURER'S RECOMMENDATIONS, SEE SPECIAL PROVISIONS.
9. ALL REINFORCING STEEL TO BE EPOXY COATED, UNLESS OTHERWISE NOTED.
10. ALL EXPOSED SURFACES OF INSTALLED ANCHOR BOLTS ARE TO BE FIELD PAINTED.

SCALE: $1\frac{1}{2}'' = 1'-0''$

SCALE: $1\frac{1}{2}'' = 1'-0''$

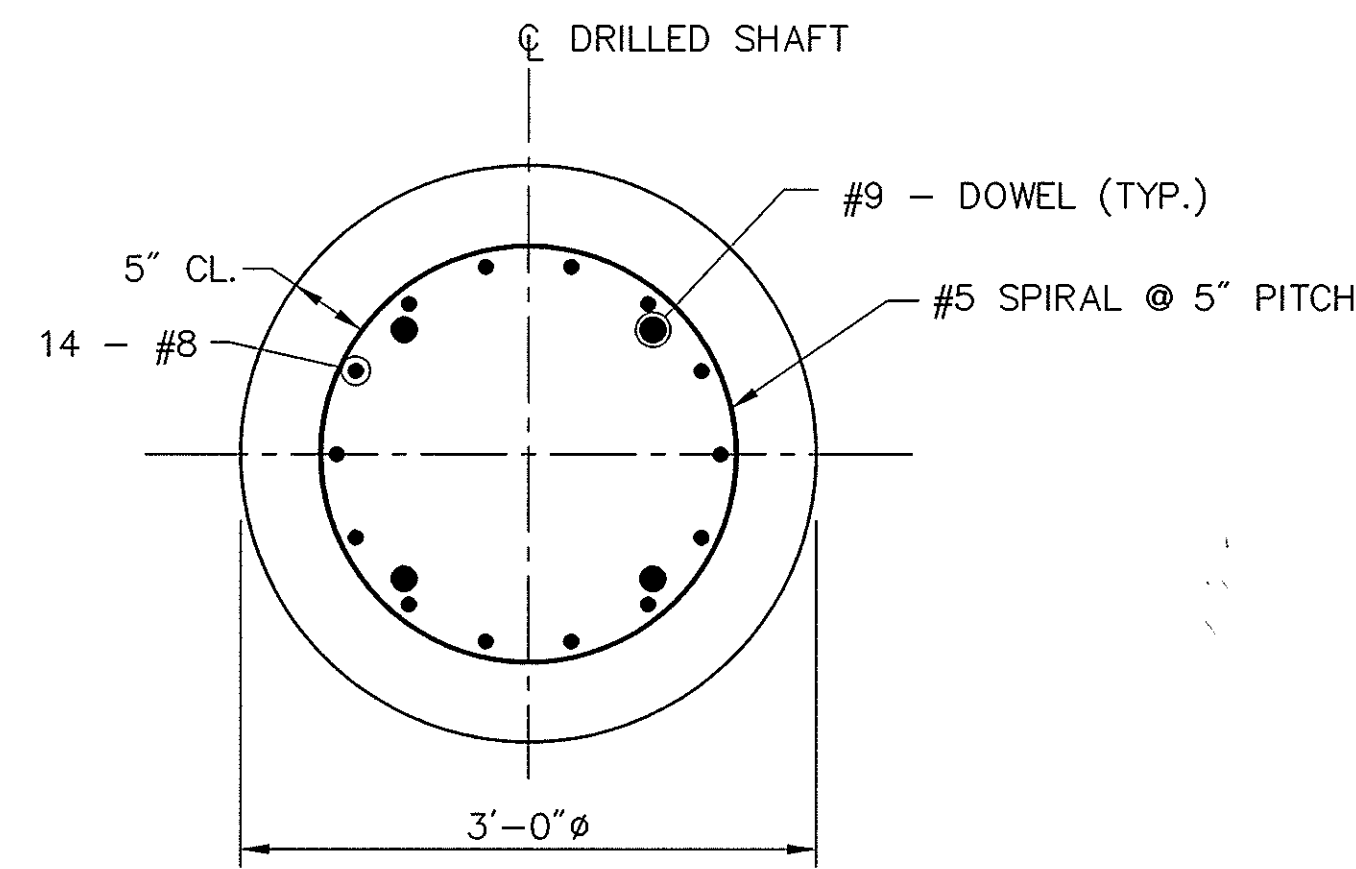
SCALE: $1\frac{1}{2}" = 1'-0"$

SCALE: $1\frac{1}{2}'' = 1'-0''$

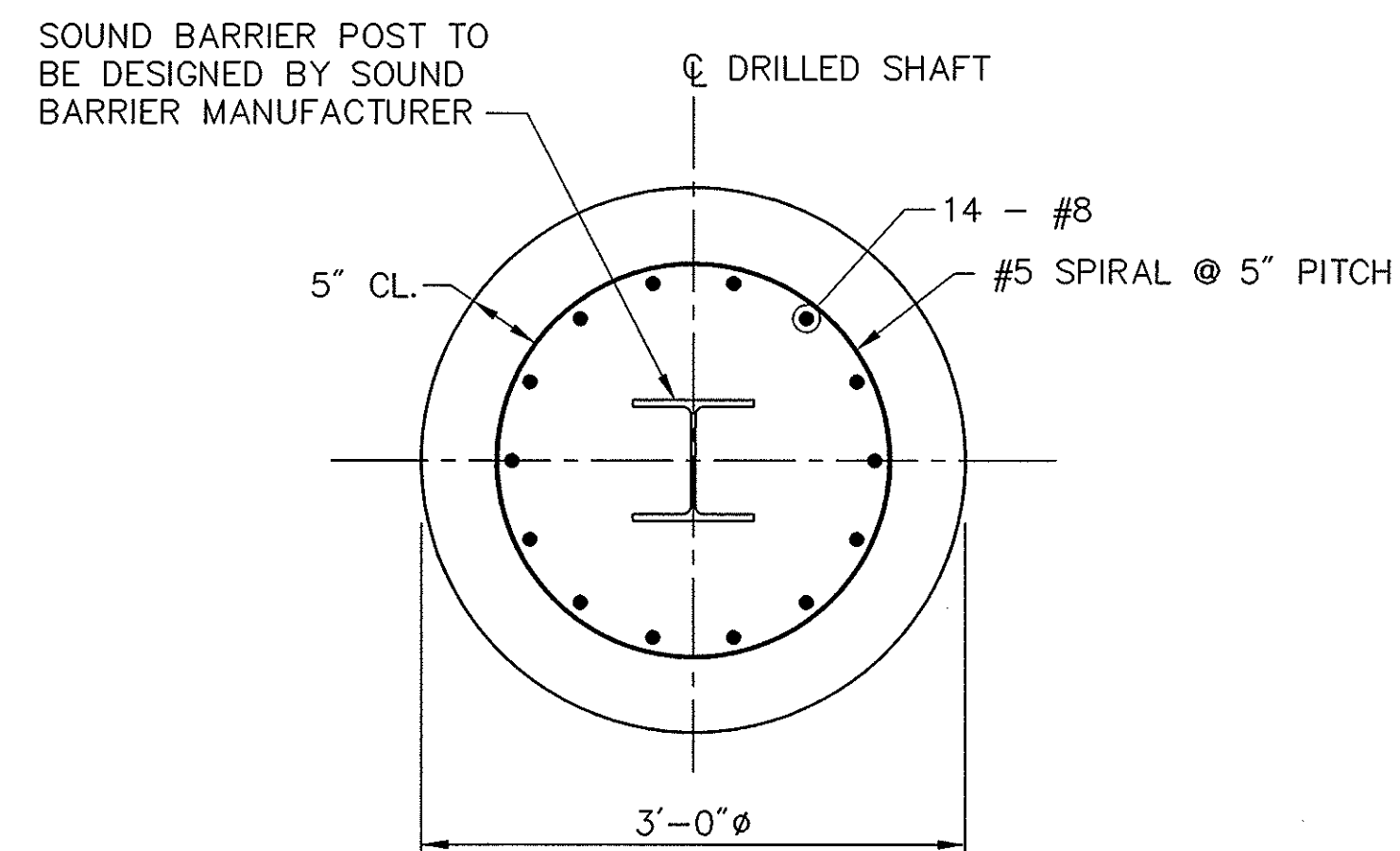
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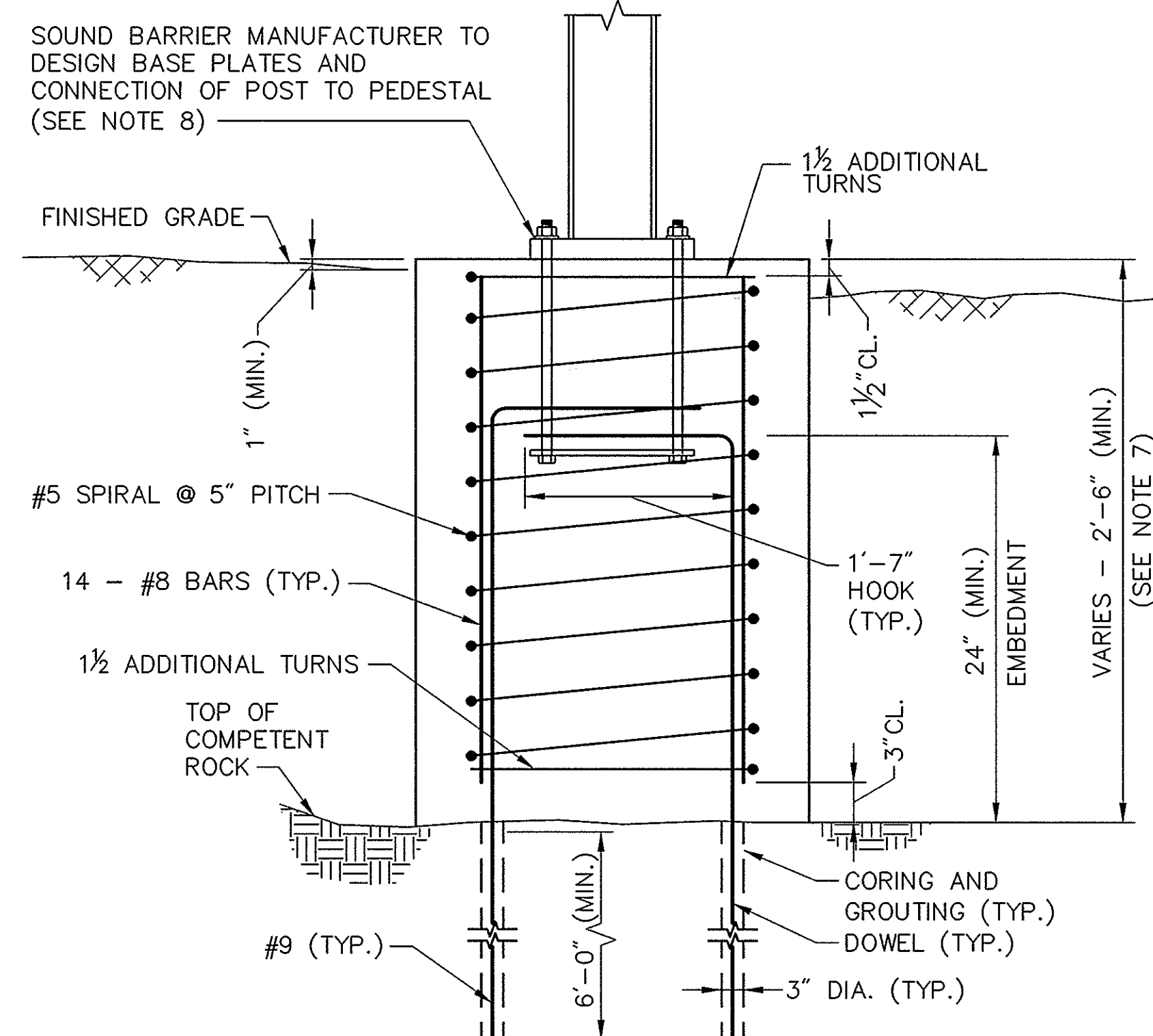
C:\09138.00\cad\st\plan\set\Lynnfield_Peabody\09138-Lynn_Peabody--DETS.dwg



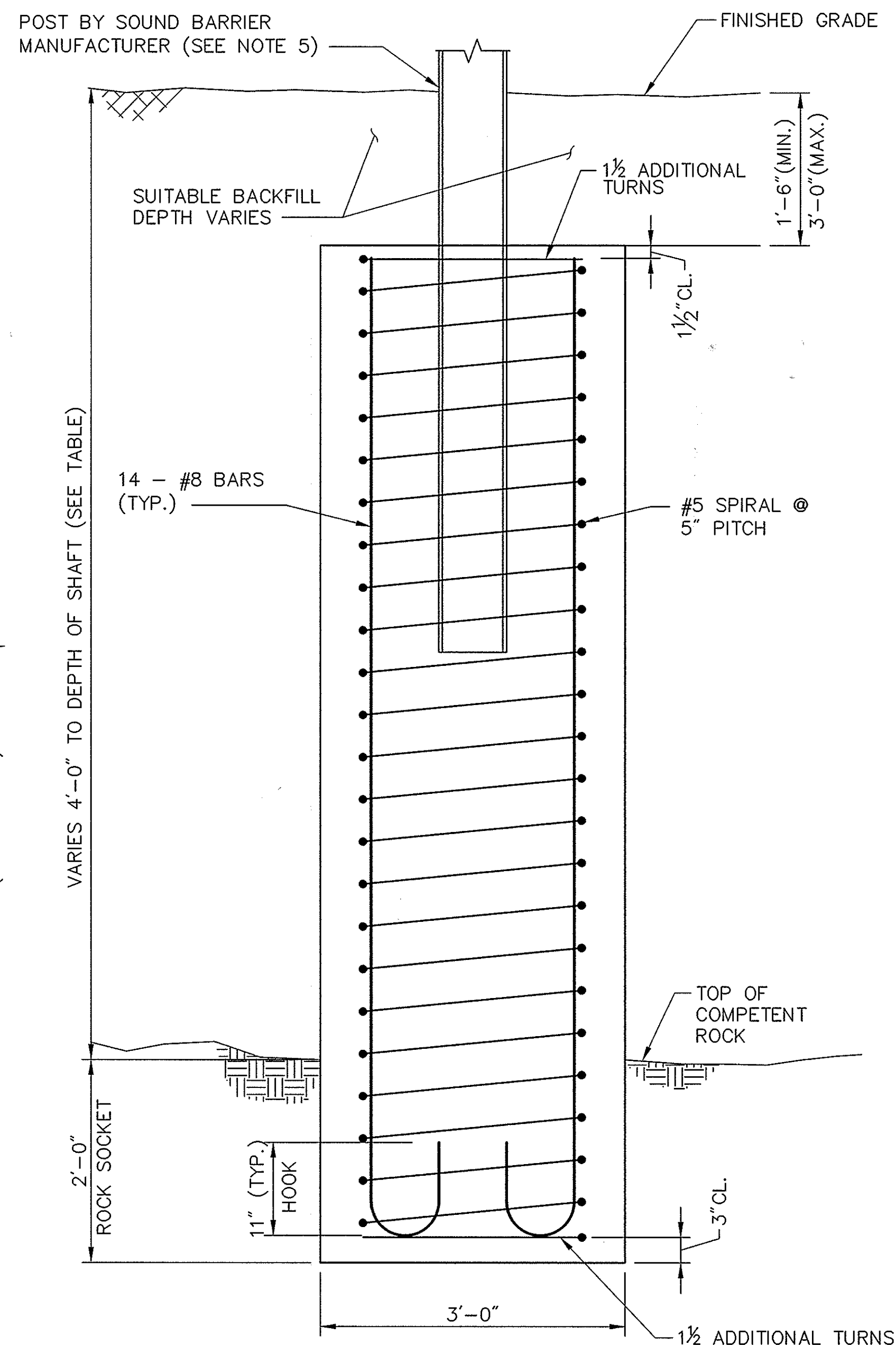
**CROSS SECTION FOR DRILLED SHAFTS
WITH ROCK ANCHORS**
SCALE: 1"= 1'-0"



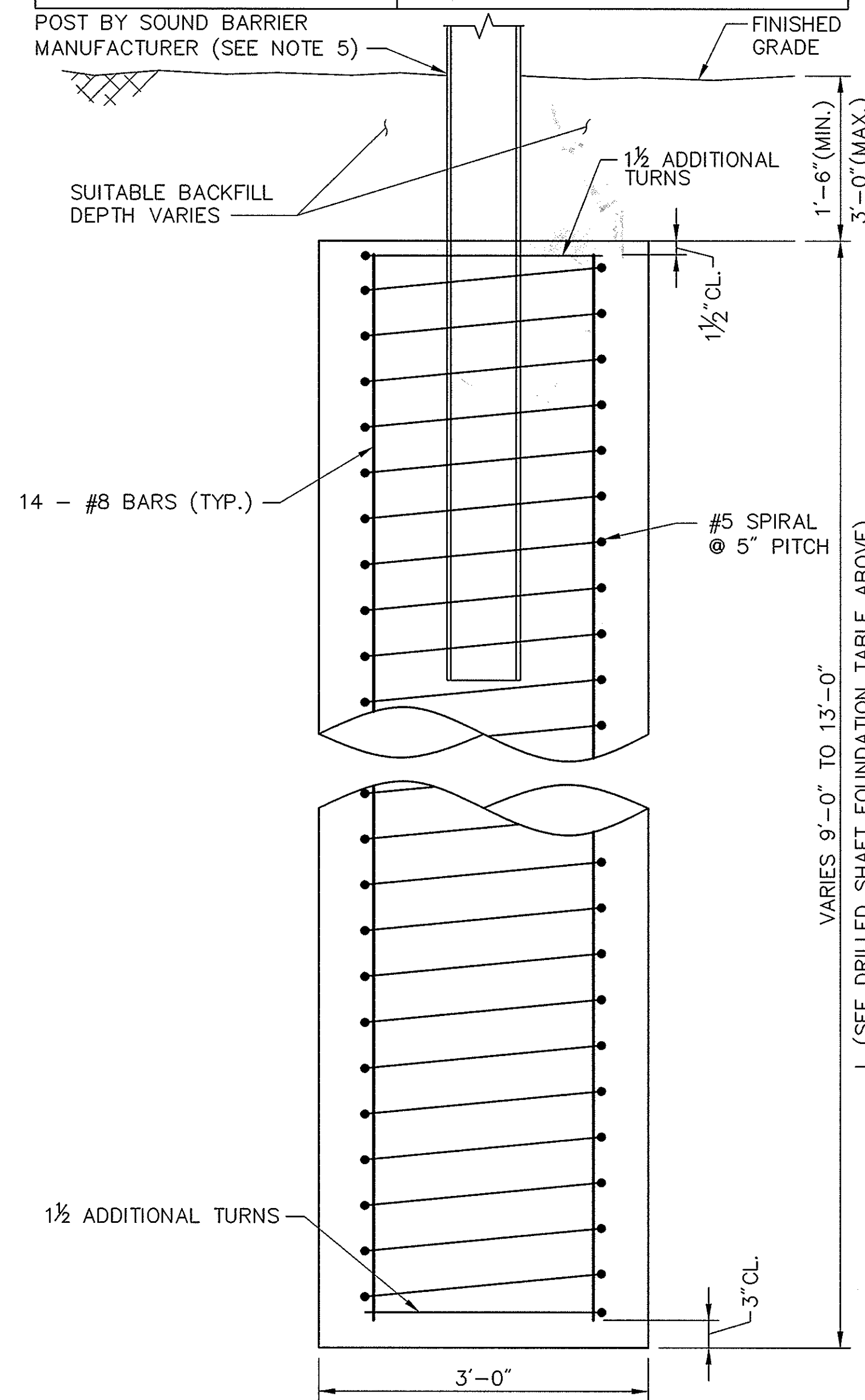
**TYPICAL CROSS SECTION FOR STANDARD
DRILLED SHAFT AND ROCK SOCKETED SHAFT**
SCALE: 1"= 1'-0"



**ROCK ANCHOR SHAFT
(FOR BEDROCK AT DEPTH LESS THAN 4 FEET)**
SCALE: 1"= 1'-0"



**ROCK SOCKETED SHAFT
(FOR BEDROCK AT DEPTH 4 FEET OR GREATER)**
SCALE: 1"= 1'-0"



**STANDARD DRILLED SHAFT
(IN SOIL ONLY)**
SCALE: 1"= 1'-0"

DRILLED SHAFT FOUNDATIONS IN SOILS	
STATION	LENGTH OF SHAFT (L)
WALL 1 (SEE NOTE 6)	
200+00 TO 212+00	10 FT (EXCEPT AT BRIDGE)
209+94.55 TO 211+24.55	BRIDGE MOUNTED
212+00 TO 214+00	12 FT
214+00 TO 216+40	10 FT
216+40 TO 224+25	13 FT
224+25 TO 234+25	10 FT
234+25 TO 236+61.20	13 FT
236+61.20 TO 239+85.36	RETAINING WALL MOUNTED
239+85.36 TO 242+55.47	9 FT
WALL 2 (SEE NOTE 6)	
300+00 TO 301+00	12 FT
301+00 TO 303+60	10 FT
303+60 TO 314+60	13 FT
314+60 TO 318+99.95	10 FT
WALL 3	
600+00 TO 603+20	12 FT
603+20 TO 626+92.97	10 FT

LYNNFIELD/PEABODY SOUND BARRIER

STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
MASS.	STP-95-2(107)	2005	26	29
PROJECT FILE NO. 604381				

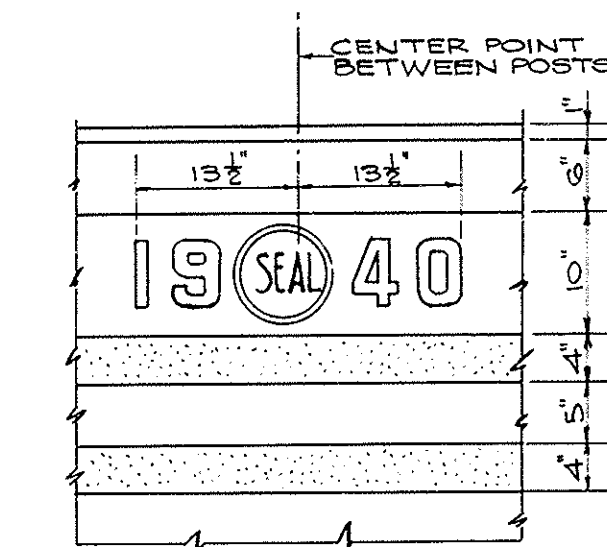
DRILLED SHAFT DETAILS

NOTES:

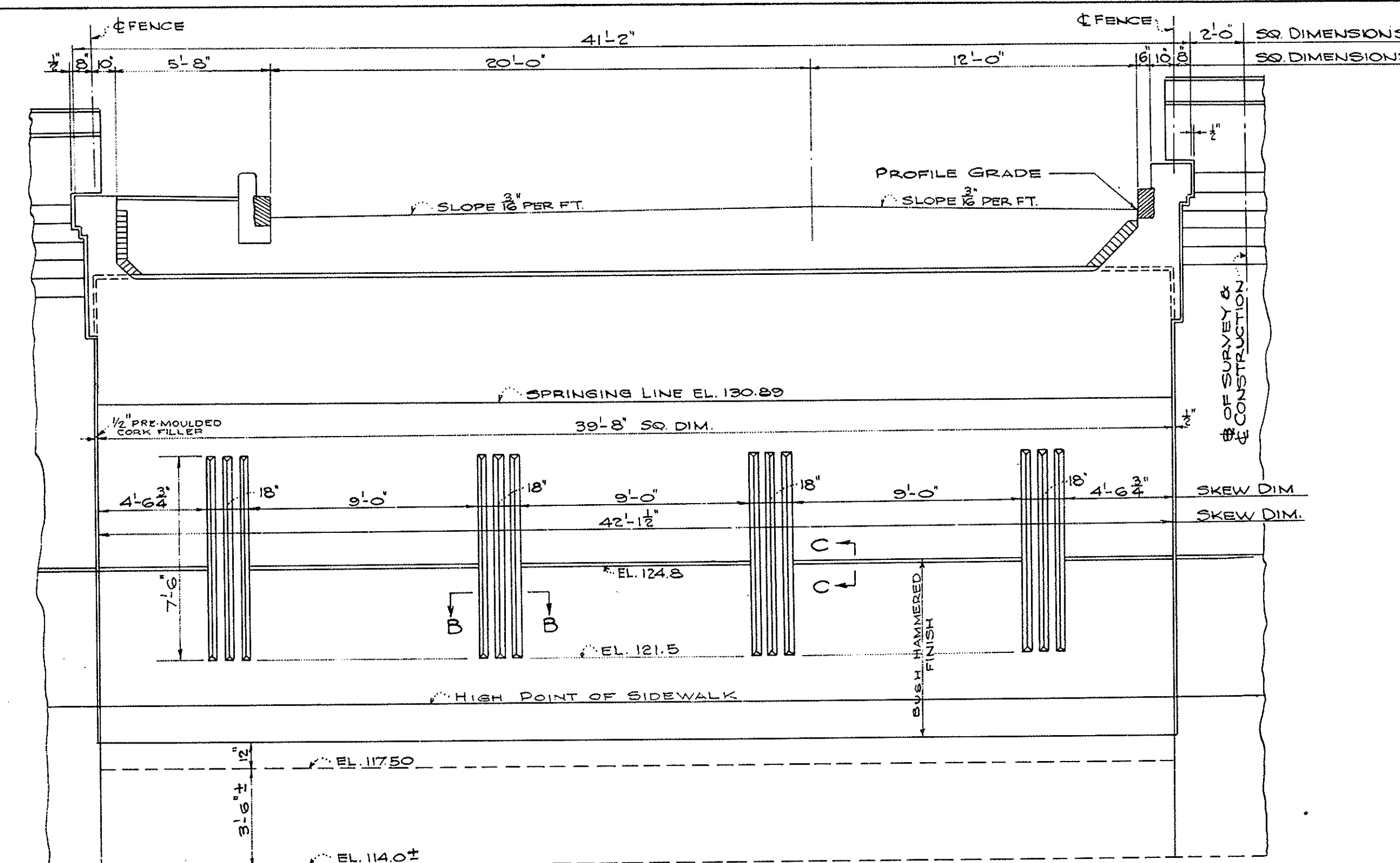
- FOUNDATION BELOW TOP OF BEDROCK TO BE PLACED AGAINST SOUND, COMPETENT BEDROCK AFTER INSPECTION BY THE ENGINEER TO CONFIRM ALL LOOSE MATERIAL IS REMOVED.
- EXISTING BEDROCK SURFACE TO BE IN CONTACT WITH NEW CONCRETE SHALL BE THOROUGHLY CLEANED AND PREPARED AS DIRECTED BY THE ENGINEER PRIOR TO PLACEMENT OF NEW CONCRETE.
- ALL CONCRETE IN DRILLED SHAFTS SHALL BE 4000 PSI - 3/4" - 610 CEMENT CONCRETE.
- REINFORCING STEEL SHALL CONFORM TO ASTM A615 GRADE 60.
- POST EMBEDMENT TO BE DETERMINED BY SOUND BARRIER MANUFACTURER.
- BORINGS INDICATE BEDROCK WAS ENCOUNTERED AT SHALLOW DEPTHS; IF ENCOUNTERED AT A DEPTH SHALLOWER THAN DEPTH OF SHAFT, USE APPROPRIATE ALTERNATIVE DETAIL:
-FOR ROCK AT DEPTH LESS THAN 4 FEET, USE ROCK ANCHOR SHAFT DETAIL.
-FOR ROCK AT DEPTH GREATER THAN 4 FEET BUT LESS THAN PROPOSED DEPTH OF SHAFT, USE ROCK SOCKETED SHAFT DETAIL.
- ROCK ANCHOR SHAFT TO BE A MINIMUM OF 2'-6" IN LENGTH. SOUND BARRIER MANUFACTURER TO MODIFY PANELS IN THE EVENT THAT ROCK IS AT A DEPTH LESS THAN 2'-6" BELOW GRADE WHICH WILL RESULT IN THE SHAFT EXTENDING ABOVE GRADE.
- SOUND BARRIER MANUFACTURER TO DETERMINE EMBEDMENT LENGTHS FOR ANCHORAGE.
- IF OBSTRUCTIONS ARE ENCOUNTERED SEE SPECIAL PROVISION.

10-15-05	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION
USE ONLY PRINTS OF LATEST DATE	

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
9	MASS	272-F(2)	1939	38	132



ARRANGEMENT OF SEAL & DATE
FOR SIZE AND CHARACTER OF NUMERALS
SEE ANOTHER SHEET
SCALE $\frac{3}{4}$ " = 1'-0"



ELEVATION - EASTERLY ABUTMENT
(WESTERLY ABUTMENT OPP. HAND EXCEPT AS SHOWN ELSEWHERE)
SCALE $\frac{1}{4}$ " = 1'-0"

GENERAL NOTES

FOUNDATIONS: MAY BE ALTERED IF NECESSARY TO SUIT CONDITIONS OF CONSTRUCTION.

DESIGN: ACCORDING TO AMERICAN ASSOCIATION OF STATE HIGHWAY OFFICIALS, 1935, FOR H-20 LOADING.

WEEP HOLES: TO BE PROVIDED IN ABUTMENTS AND WING WALLS WITH INLETS PROTECTED BY BROKEN STONE OR SCREENED GRAVEL, AS DIRECTED BY THE ENGINEER.

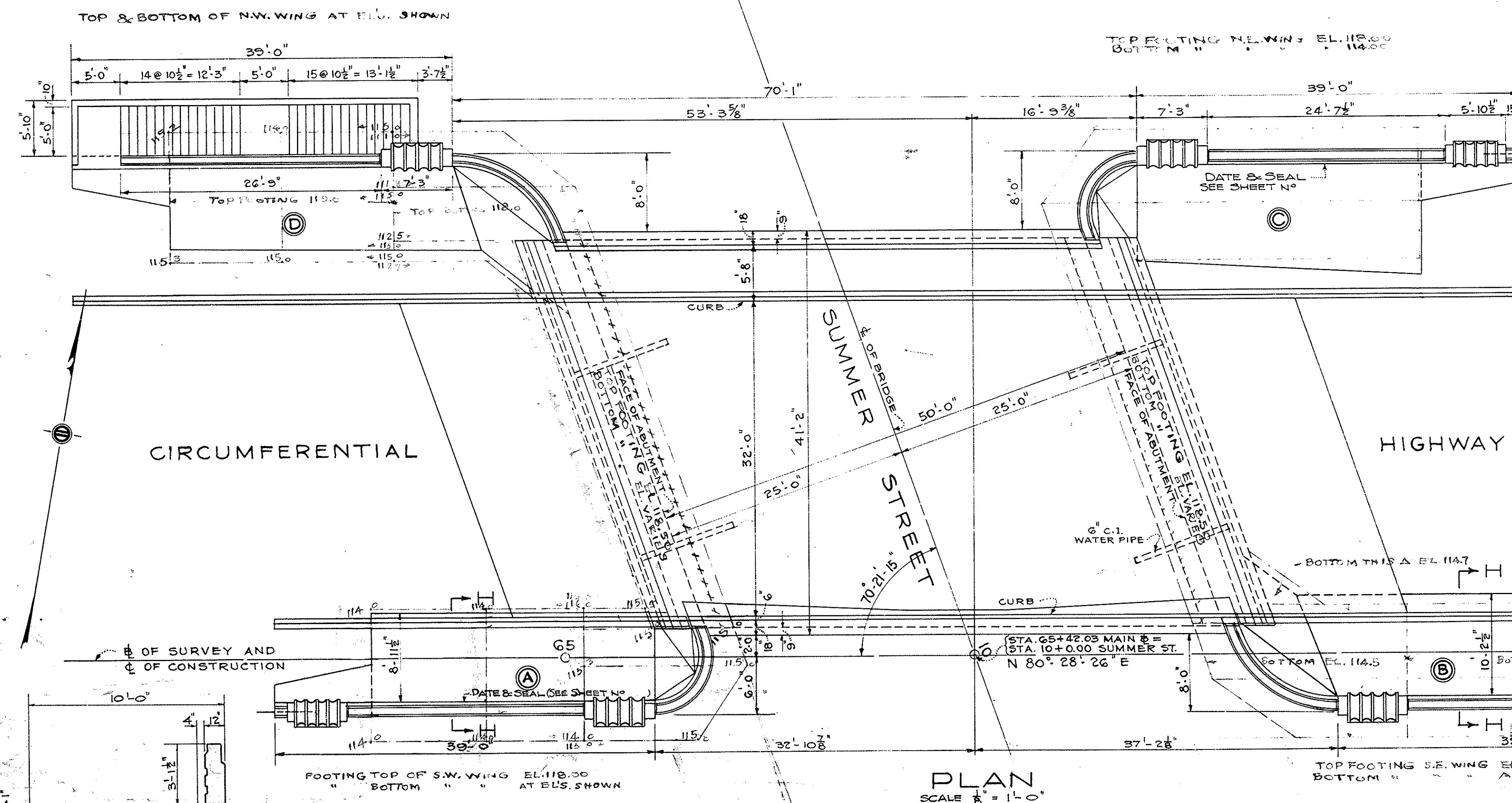
BENCH MARK: STA. 64+36 73.5 LT. SQ. CHIS. CUT ON BOULDER, EL. 129.225
DATUM = U.S.C. & G.S. MEAN SEA LEVEL.

DATE & SEAL: TO BE PLACED MIDWAY BETWEEN POSTS AT NORTHEASTERLY AND SOUTHWESTERLY ENDS OF BRIDGE. FOR LOCATION AND CHARACTER OF NUMERALS SEE DETAIL ON THIS SHEET.

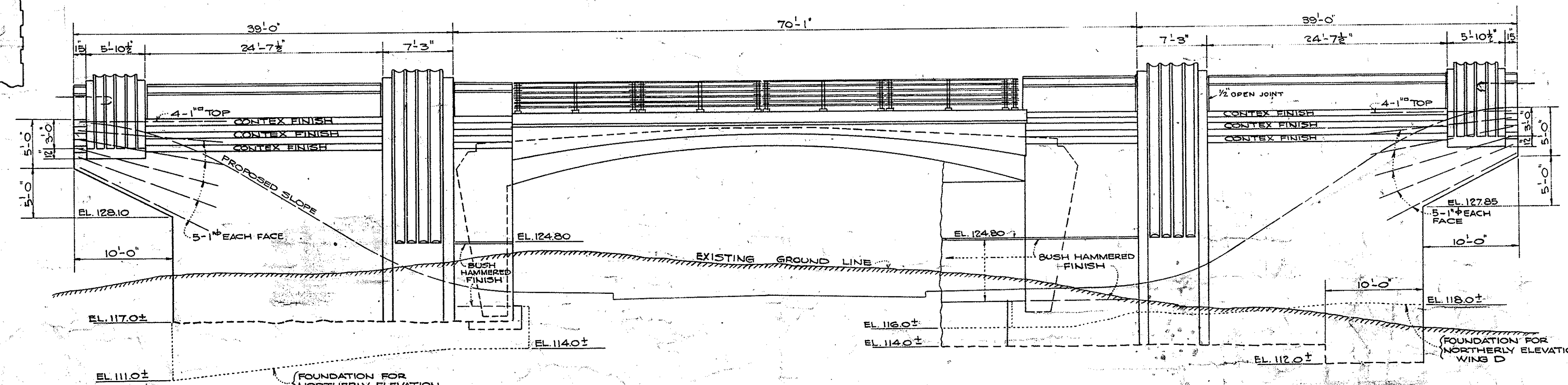
ESTIMATED QUANTITIES

(NOT GUARANTEED)

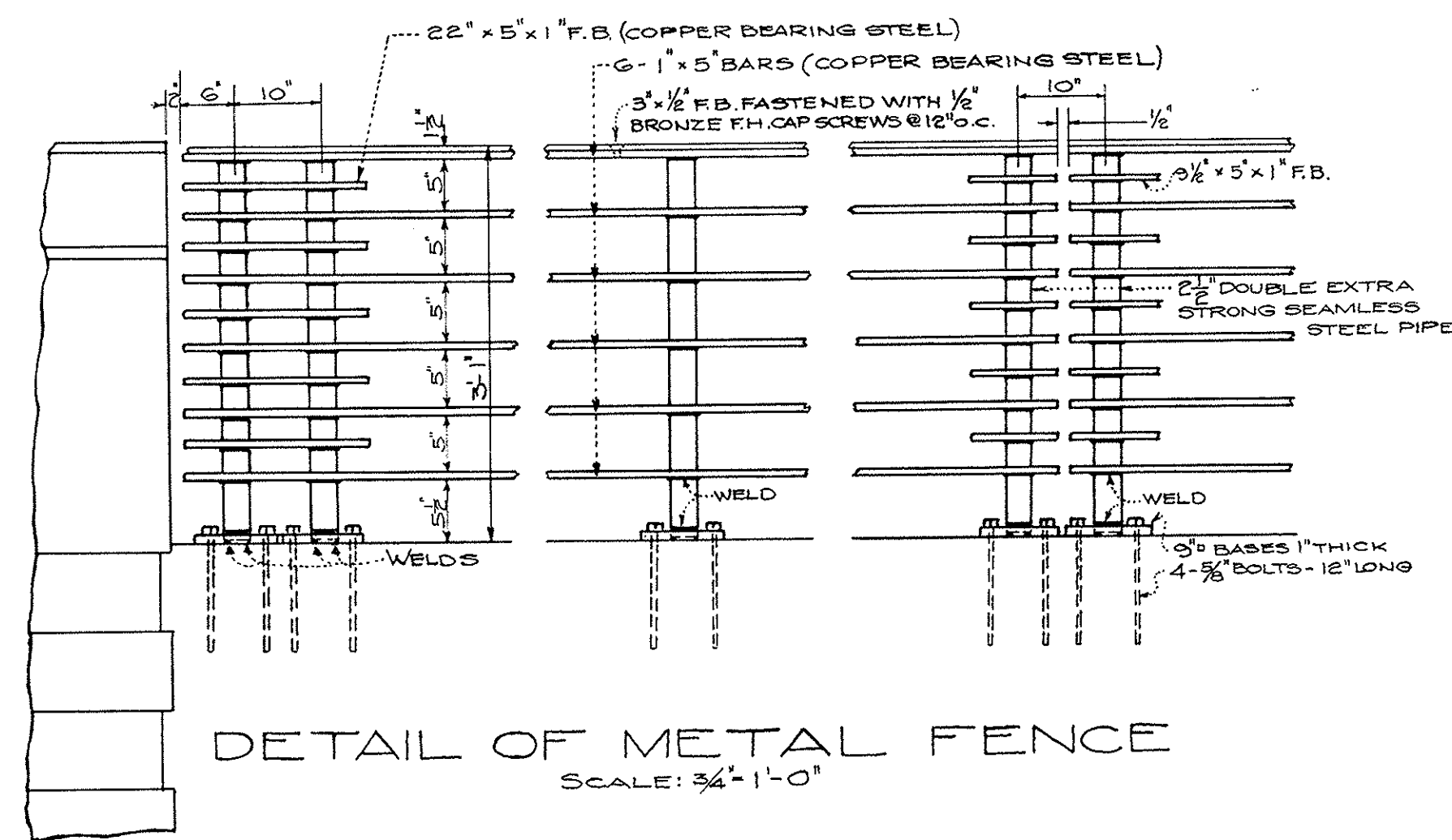
	FINAL EST.	PREL. EST.
BRIDGE EXCAVATION	356	640 CU. YDS.
TRENCH LEDGE EXCAVATION	117	80 CU. YDS.
GRAVEL BORROW	1843	1150 CU. YDS.
LUMBER SHEETING	0	1 MF. BM.
CEM. CONC. MASONRY CLASS A	493.9	490 CU. YDS.
CEM. CONC. MASONRY CLASS B	16.2	17 CU. YDS.
CEM. CONC. MASONRY CLASS C	1111.5	950 CU. YDS.
STEEL REINF. FOR STRUCTURES	1089.10	10300 POUNDS
MEMBRANE WATERPROOFING	312	290 SQ. YDS.
BITUMINOUS DAMP PROOFING	419.8	410 SQ. YDS.
WELDED BRIDGE RAILING	1055	106 LIN. FT.
BUSH HAMMERED FINISH	791	1040 SQ. FT.
WELDED HAND RAIL	45.9	45 LIN. FT.
GRANITE CURBING TYPE VA 6x11"	293	296 LIN. FT.
6" CAST IRON WATER PIPE	530	54 LIN. FT.
SPECIAL CURING FOR CURBS	54	810 SQ. FT.
ABRASIVE STAIR TREADS	149	135 LIN. FT.
STRIPPING GRAVEL PITS	276	120 CU. YDS.
CONTEX FINISH	418	430 SQ. FT.
BITUMINOUS CONCRETE WALK SURFACE	292	28 TONS.
EW. O. HWY. G.D. BRANCHORS	3	EACH



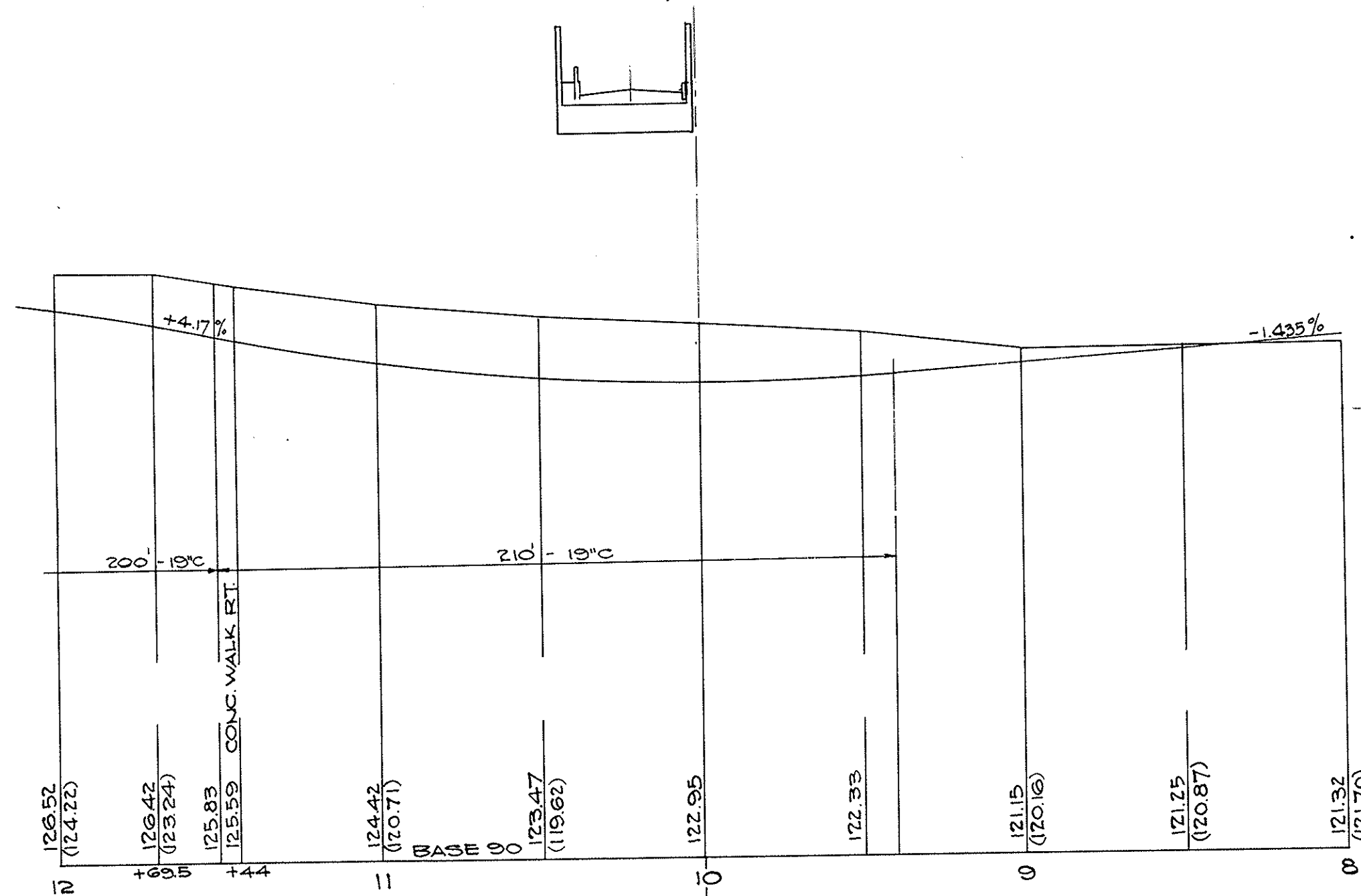
SOUTHERLY ELEVATION
NORTHERLY ELEVATION SAME EXCEPT FOR FOUNDATION AS SHOWN
SCALE $\frac{1}{8}$ " = 1'-0"



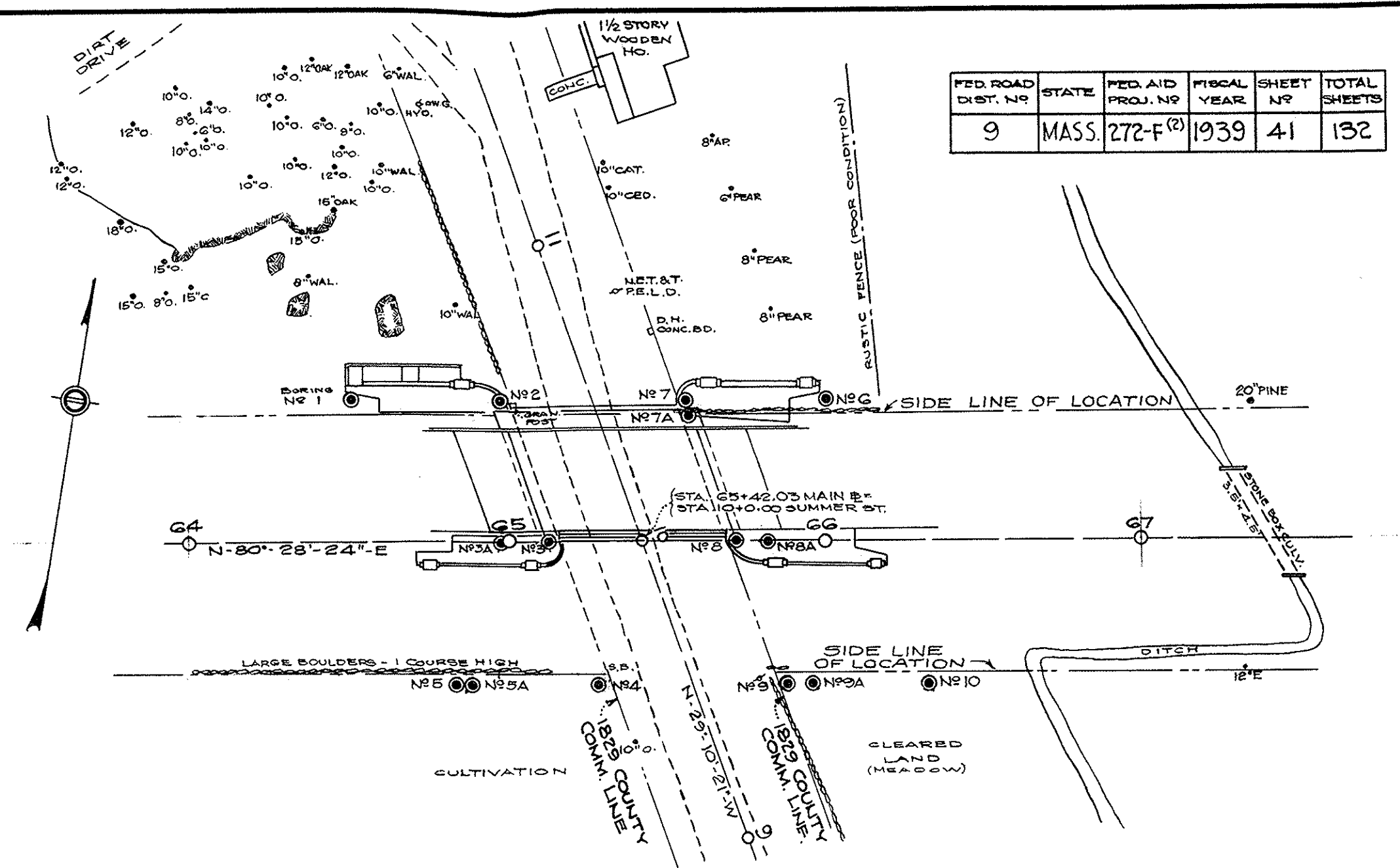
PLANS POSTED
DEC. 1943
CHANGES MADE IN GREEN INK
B.B. 13802.3838 FCB. 1805.2130
EVG.



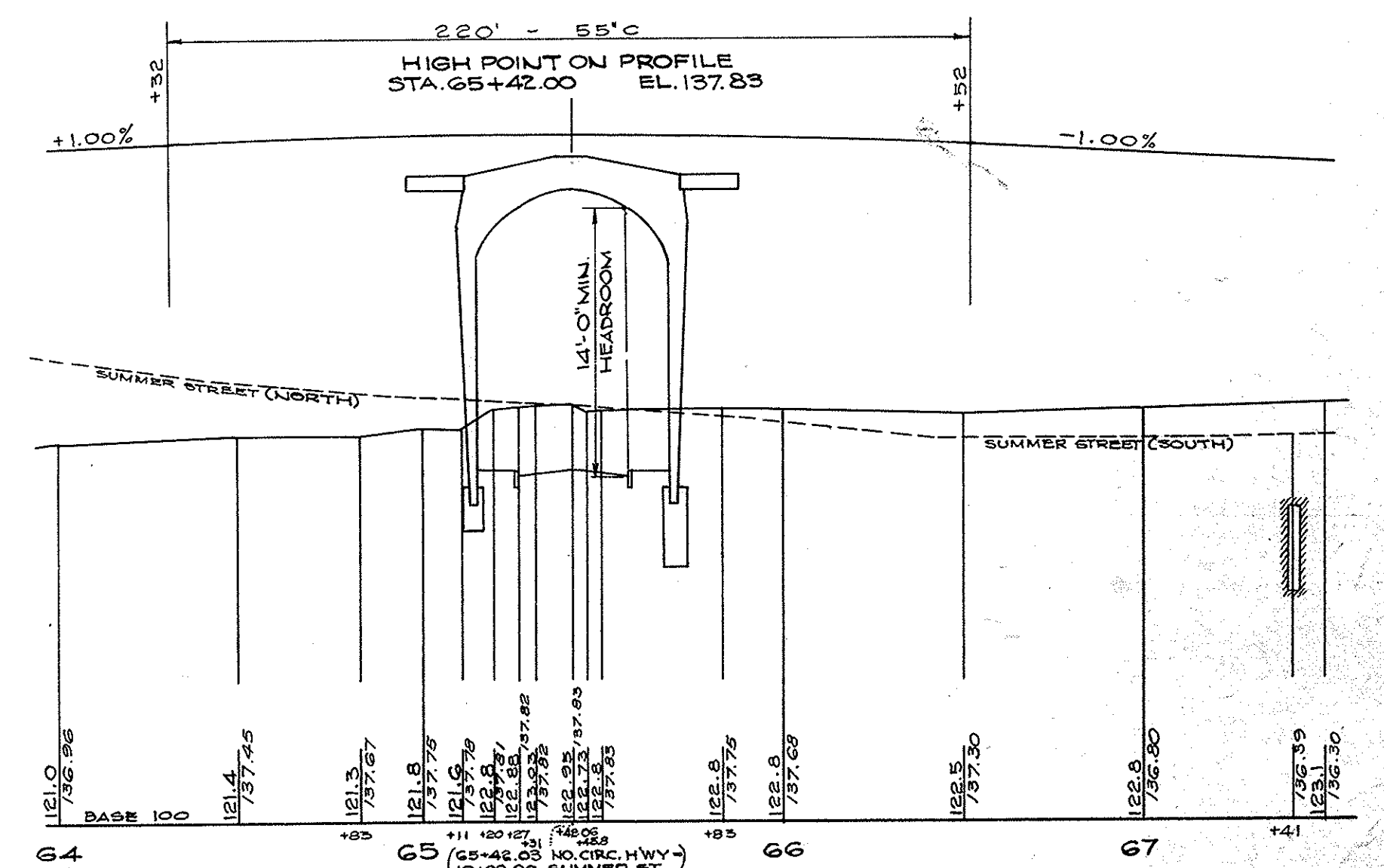
NOTE: ALL MATERIAL IN FENCE TO BE COPPER BEARING STEEL UNLESS OTHERWISE NOTED. FILLET WELD GROUND SMOOTH UNDER EACH FLAT BAR.



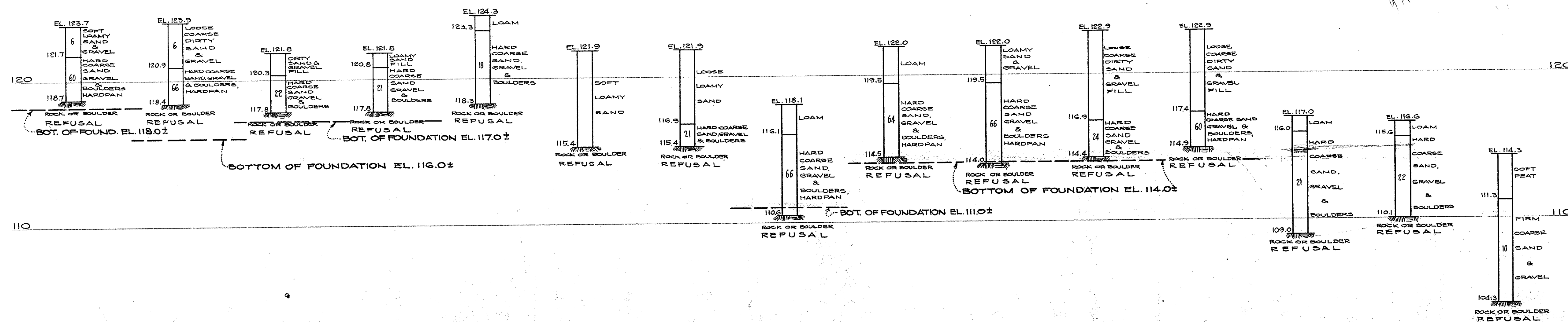
PROFILE OF SUMMER ST.
HOR. SCALE: 1"=40' VERT. SCALE: 1"=8'



KEY PLAN
SCALE: 1"=40'



PROFILE NO. CIRCUM. HIGHWAY
HOR. SCALE: 1"=40' VERT. SCALE: 1"=8'



BORING NO. 1 NO. 2 NO. 3 NO. 3-A NO. 4 NO. 5-A NO. 5 NO. 6 NO. 7 NO. 7-A NO. 8 NO. 8-A NO. 9 NO. 9-A NO. 10

BORINGS
BORINGS TAKEN MARCH 1938
VERTICAL SCALE: 1/2"=10'

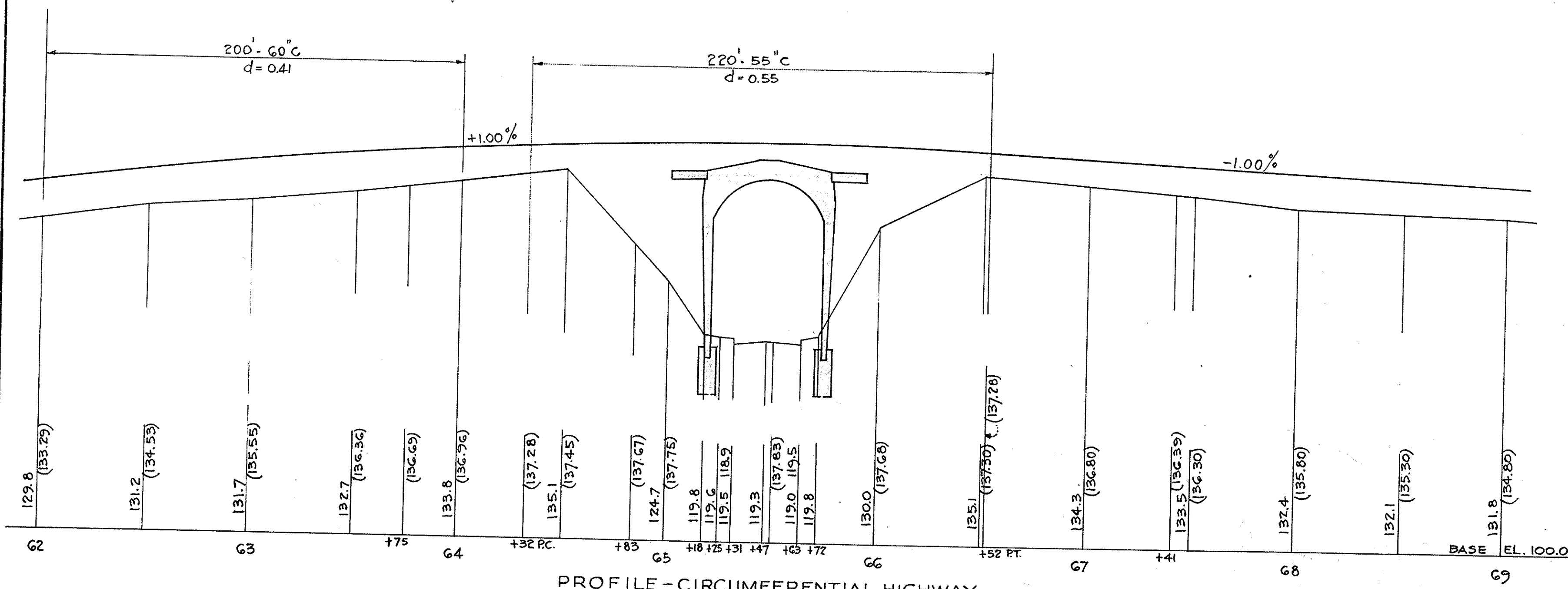
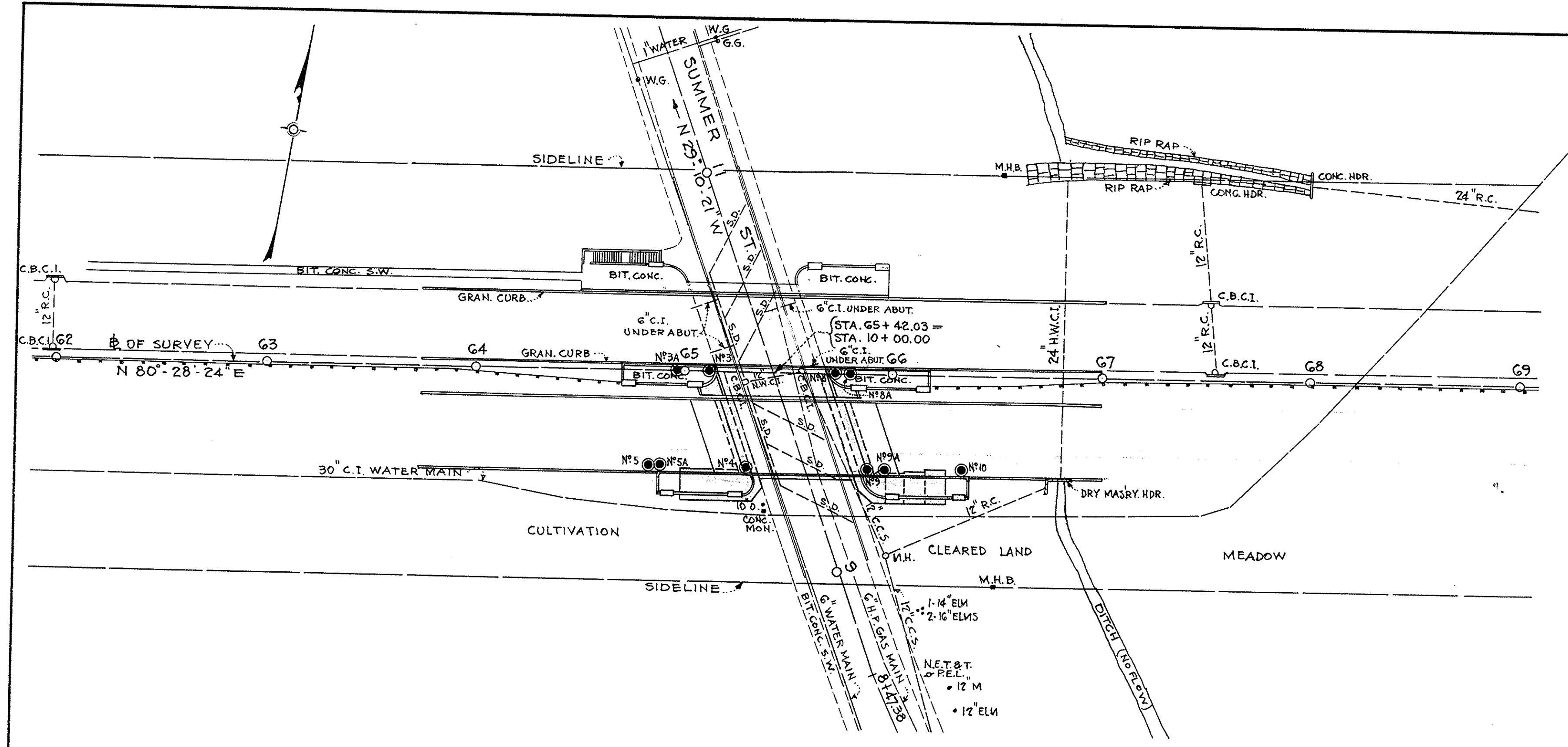
BORING NOTES

LOCATION OF BORINGS SHOWN ON KEY PLAN THUS: BORING NO. 4 BORINGS TAKEN FOR PURPOSE OF DESIGN AND SHOW CONDITIONS AT BORING POINTS ONLY, BUT DO NOT NECESSARILY SHOW NATURE OF MATERIAL TO BE ENCOUNTERED IN CONNECTION WITH CONSTRUCTION OF THE BRIDGE. FIGURES IN COLUMNS INDICATE BLOWS PER FOOT ON SPOON. SAMPLE FROM TEST BORINGS MAY BE SEEN AT OFFICE OF BRIDGE ENGINEER, ROOM 609

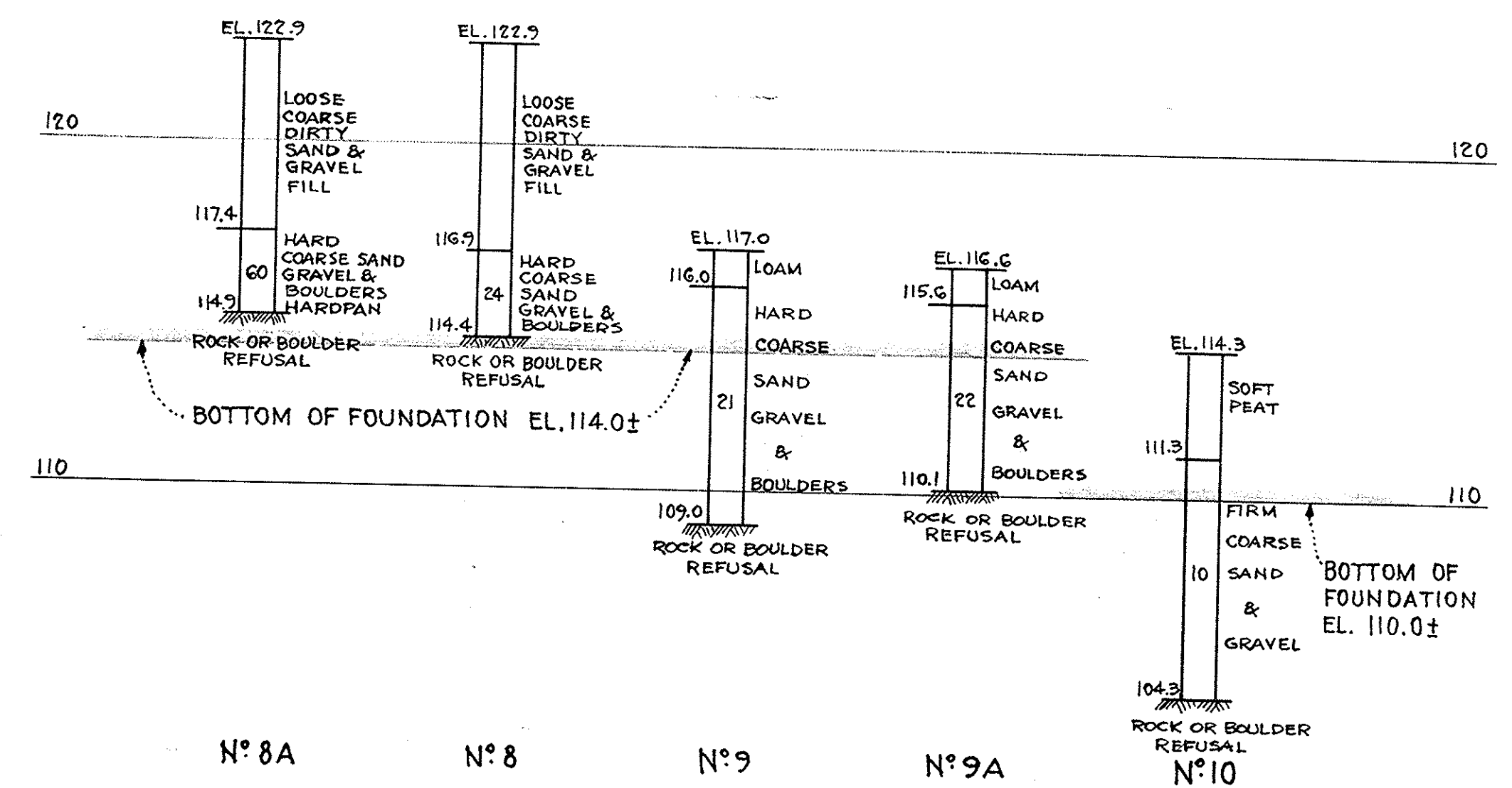
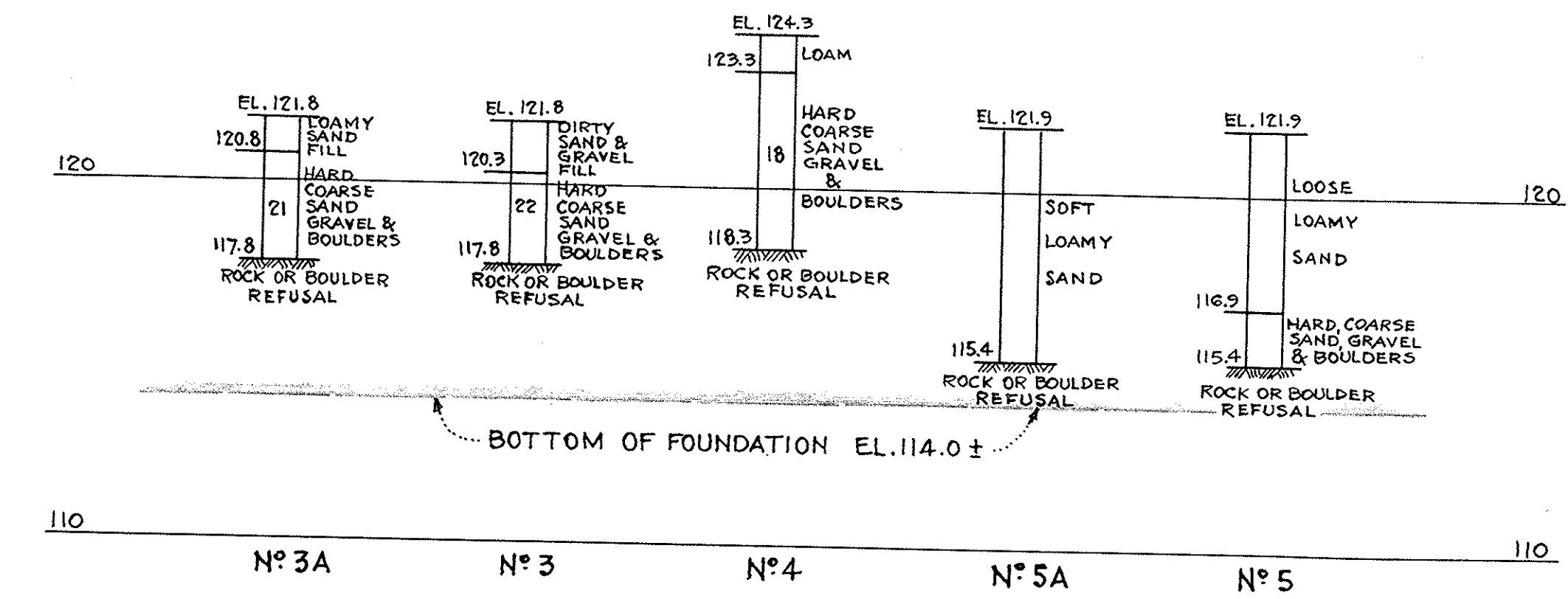
7-22-40	CONSTRUCTION
5-29-40	ADVERTISING
DATE	DESCRIPTION
USE ONLY PRINTS OF LATEST DATE	

SHEET 4 OF 4 SHEETS BRIDGE NO. L-19-7

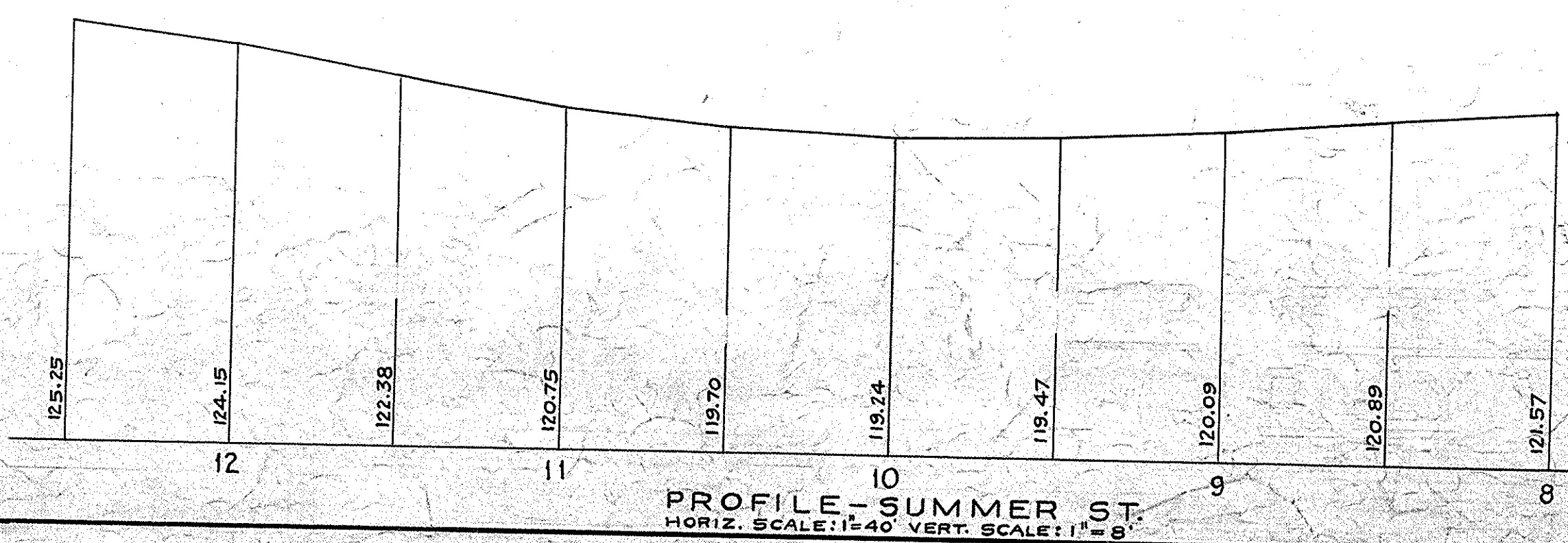
NO. CIRCUM. HIGHWAY OVER SUMMER ST. LYNNFIELD



NOTE: PROFILE AS SHOWN IS 2 FT. SOUTH OF NORTHERLY CURB OF EAST BOUND. ROADWAY.



BORING NOTES
LOCATION OF BORINGS SHOWN ON KEY PLAN THUS ● N°10 BORINGS TAKEN FOR PURPOSE OF DESIGN AND SHOW CONDITIONS AT BORING POINTS ONLY, BUT DO NOT NECESSARILY SHOW NATURE OF MATERIAL TO BE ENCOUNTERED IN CONNECTION WITH THE CONSTRUCTION OF THE BRIDGE. FIGURES IN COLUMNS INDICATE BLOWS PER FOOT ON 1" PIPE PRODUCED BY 30" FALL OF 140" HAMMER. SAMPLES FROM BORINGS ARE AVAILABLE AND MAY BE SEEN AT THE OFFICE OF THE BRIDGE ENGINEER, MR. R.O. SPOFFORD, ROOM 609



PUB. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	MASS.	27206	194	19	71

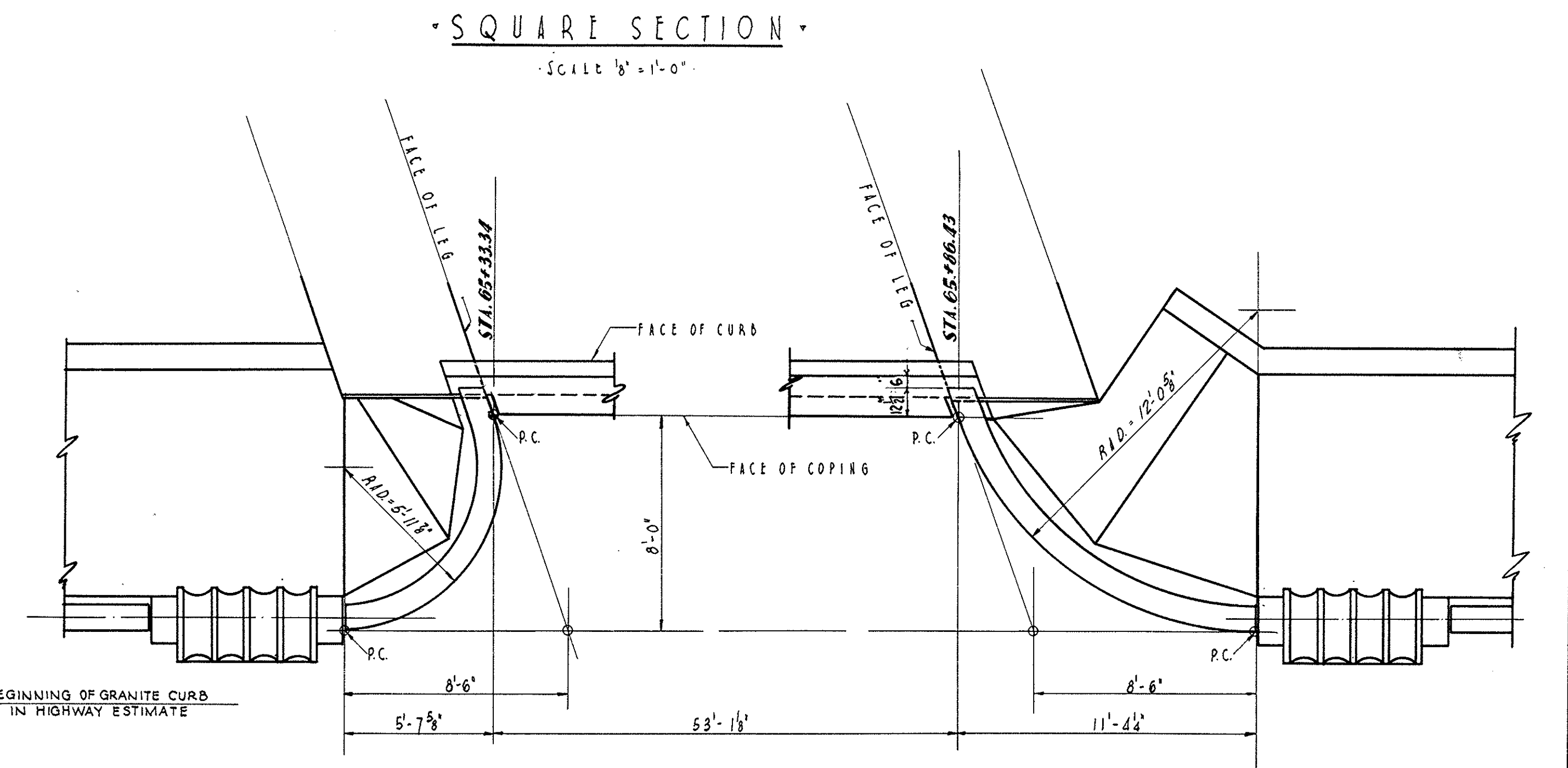
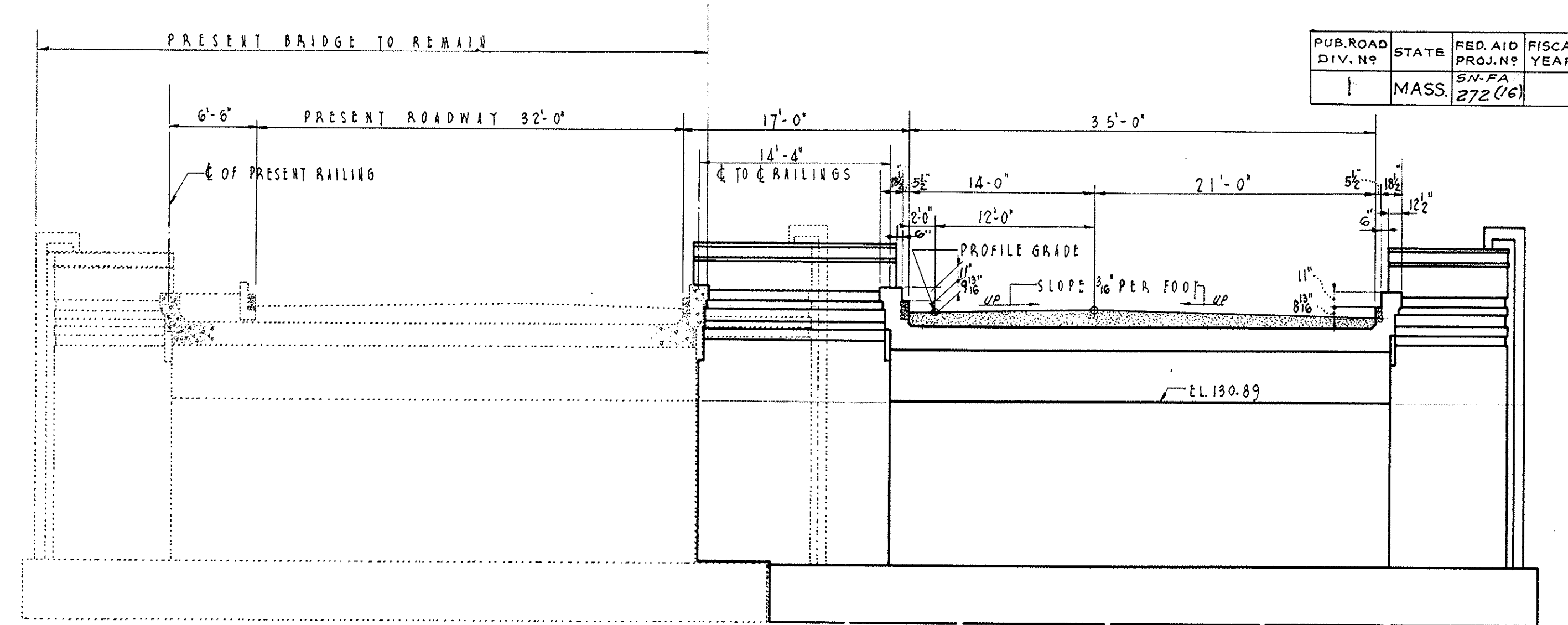
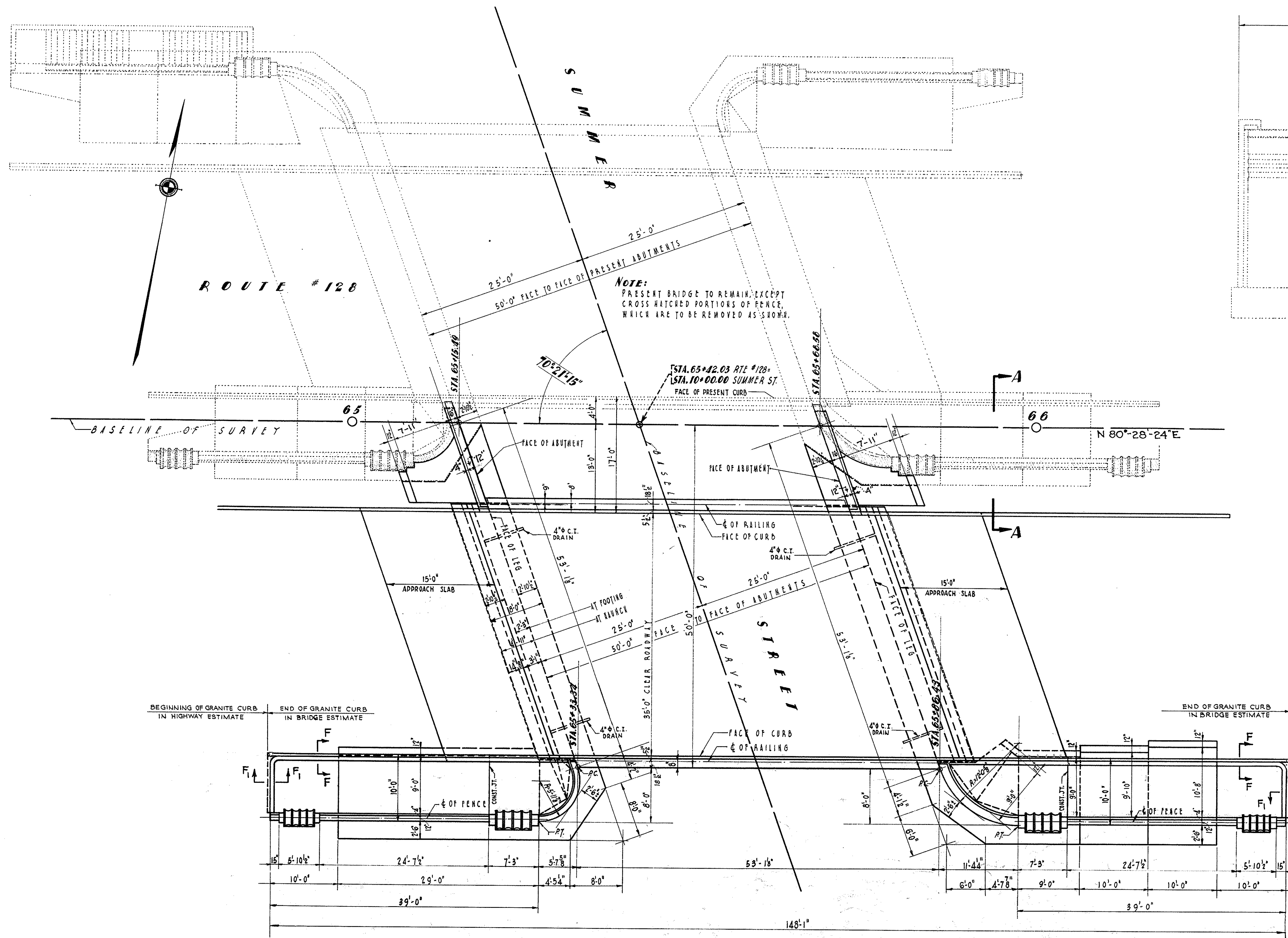
GENERAL NOTES
FOUNDATIONS: MAY BE ALTERED IF NECESSARY TO SUIT CONDITIONS OF CONSTRUCTION
DATE & SEAL: TO BE PLACED ON INSIDE FACE OF SOUTHWESTERLY END POST. FOR SIZE AND CHARACTER OF NUMERALS, SEE DETAILS ON ANOTHER SHEET. LOCATION TO BE SAME AS ON END POST OF EXISTING BRIDGE.
DESIGN: ACCORDING TO SPECIFICATIONS OF THE AMERICAN ASSOCIATION OF STATE HIGHWAY OFFICIALS (1941 ED.) FOR H-20 LOADING.
BENCH MARK: STA. 64 + 36 - 73.5' LT. 39. CHIS. CUT ON BOULDER ELEV. 129.225 DATUM U.S.C. & G.S. MEAN SEA LEVEL = 0.0

ESTIMATED QUANTITIES (NOT GUARANTEED)

BRIDGE EXCAVATION	440	CU. YDS.
CLASS B ROCK EXCAVATION	40	CU. YDS.
CONCRETE EXCAVATION	45	CU. YDS.
GRAVEL BORROW	780	CU. YDS.
STRIPPING GRAVEL PITS	80	CU. YDS.
CEM. CONC. MASONRY CLASS A	455	CU. YDS.
CEM. CONC. MASONRY CLASS B	770	CU. YDS.
CEM. CONC. MASONRY CLASS D	12.3	CU. YDS.
STEEL REINF. FOR STRUCTURES	94200	POUNDS
MEMBRANE WATERPROOFING	250	SQ. YDS.
BITUMINOUS DAMP-PROOFING	300	SQ. YDS.
METAL BRIDGE RAILINGS	106	LIN. FT.
4" L.W. CAST IRON PIPE	60	LIN. FT.
GRANITE CURB TYPE VA (6"x12") STR.	203	LIN. FT.
BIT. CONC. WALK SURFACE	5	TONS
CRUSHED STONE BASE FOR WALKS	11	TONS
BITUMEN FOR WALK BASE (ASPHALT)	80	GALS.
CON-TEX SURFACE FINISH	295	SQ. FT.
BUSH HAMMERED SURFACE FINISH	725	SQ. FT.

DATE	SHEET NOS.	DESCRIPTION
LIST OF REVISIONS - USE ONLY PRINTS OF LATEST DATE		
THE COMMONWEALTH OF MASSACHUSETTS PROPOSED BRIDGE EXTENSION LYNNFIELD NORTHERN CIRCUMFERENTIAL HIGHWAY - STA. 65+42.03 OVER SUMMER ST. SCALES AS NOTED OFFICE OF DEPARTMENT OF PUBLIC WORKS 100 NASHUA ST. - BOSTON MASS. MARCH 1946		
DESIGNED BY A.J.G.		TRACED BY R.E.B.
CHECKED BY L.G.C.		DATE OF ISSUE
ADVERTISING	CONSTRUCTION	
3-30-46	6-16-46	

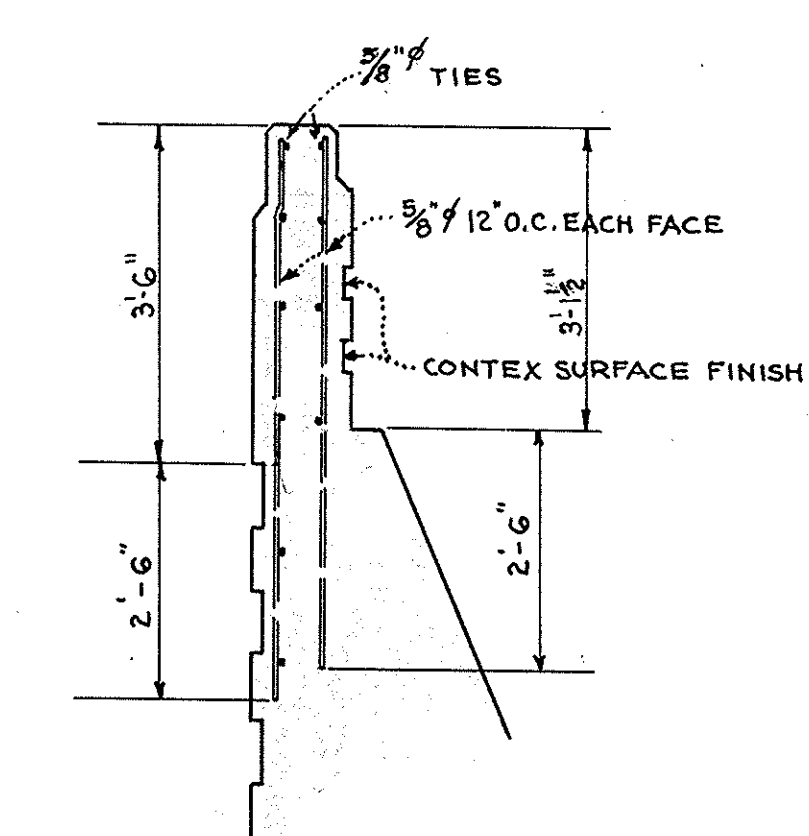
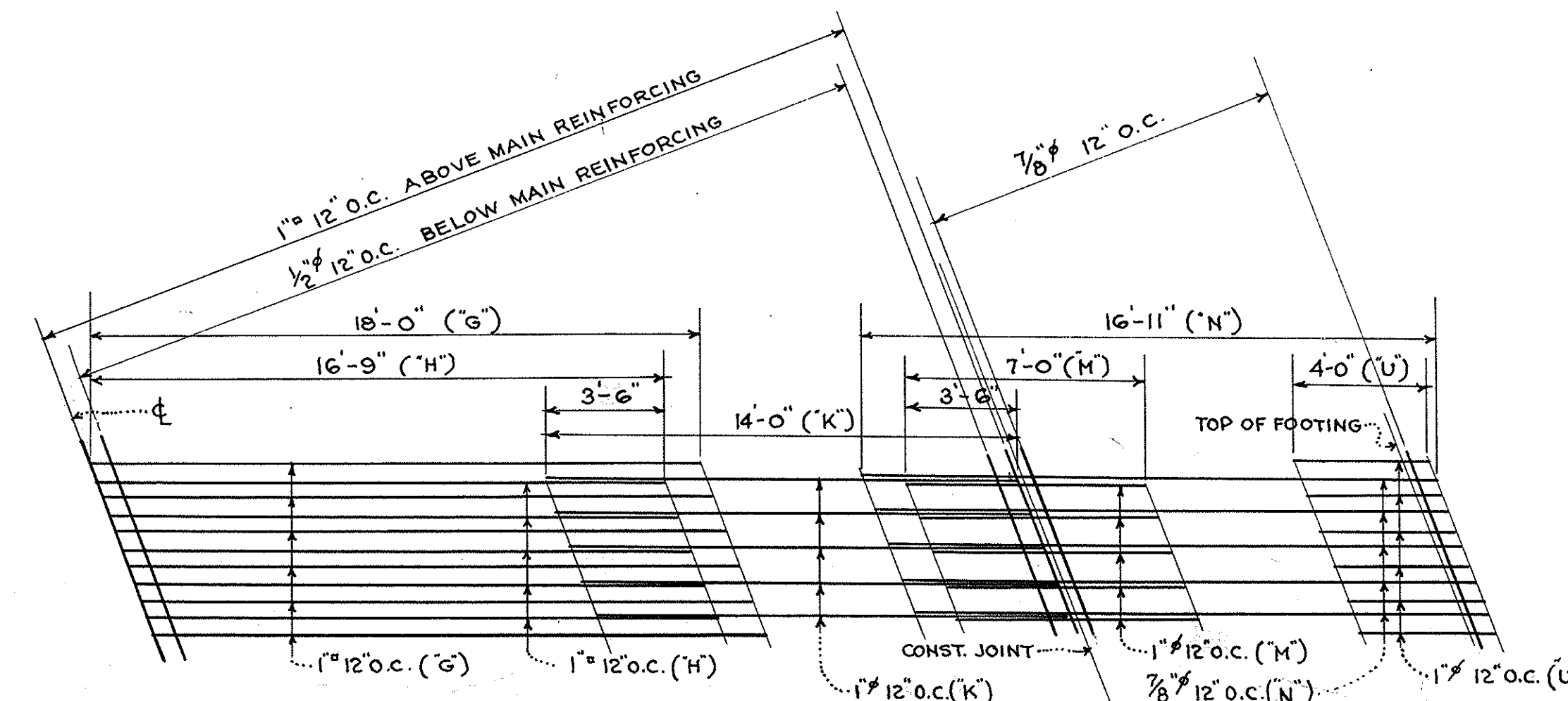
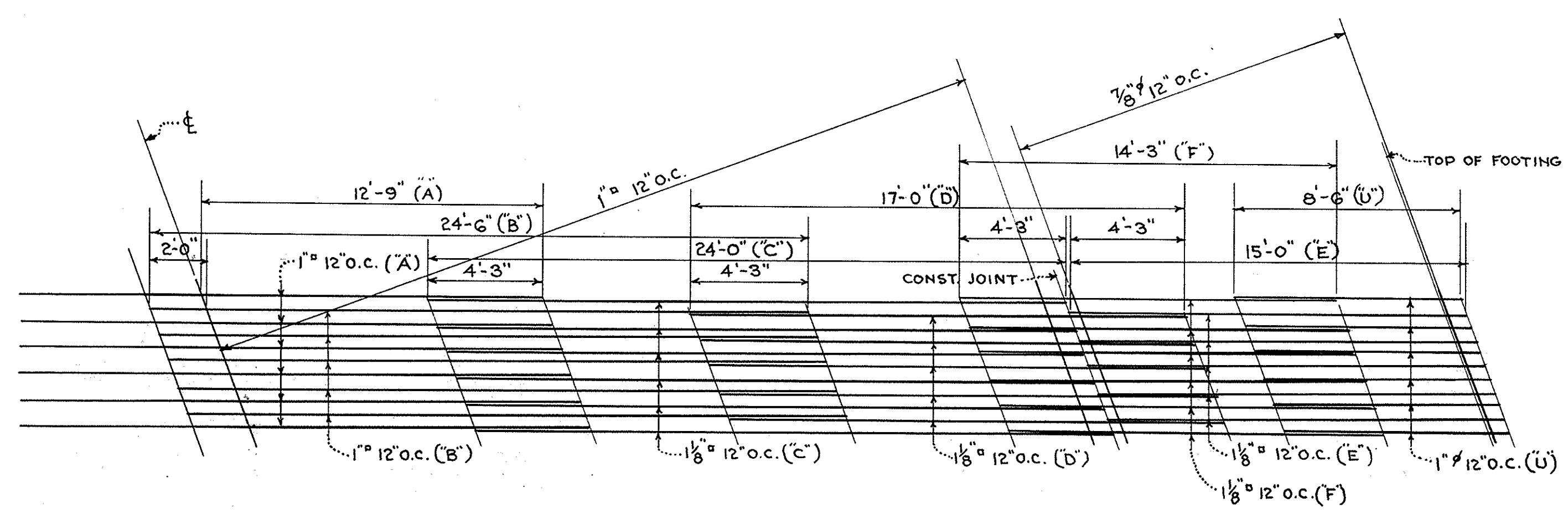
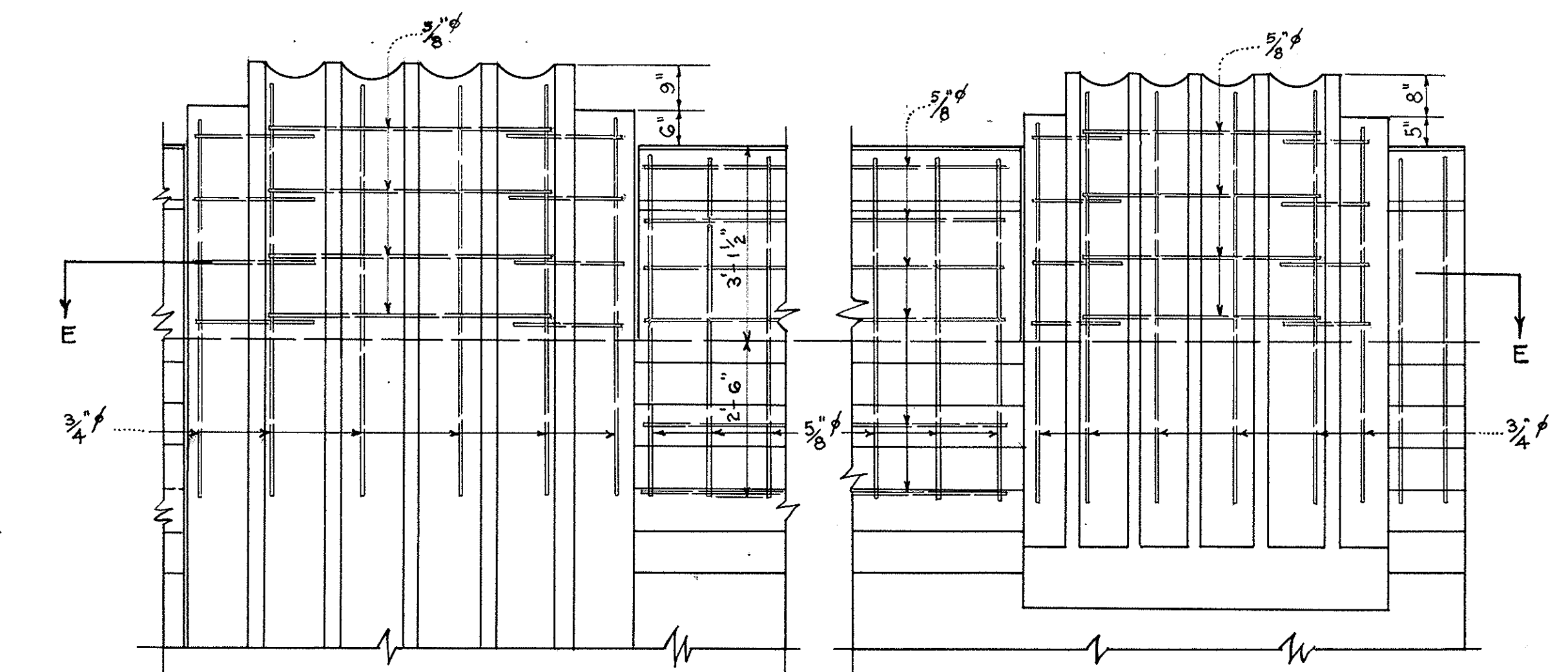
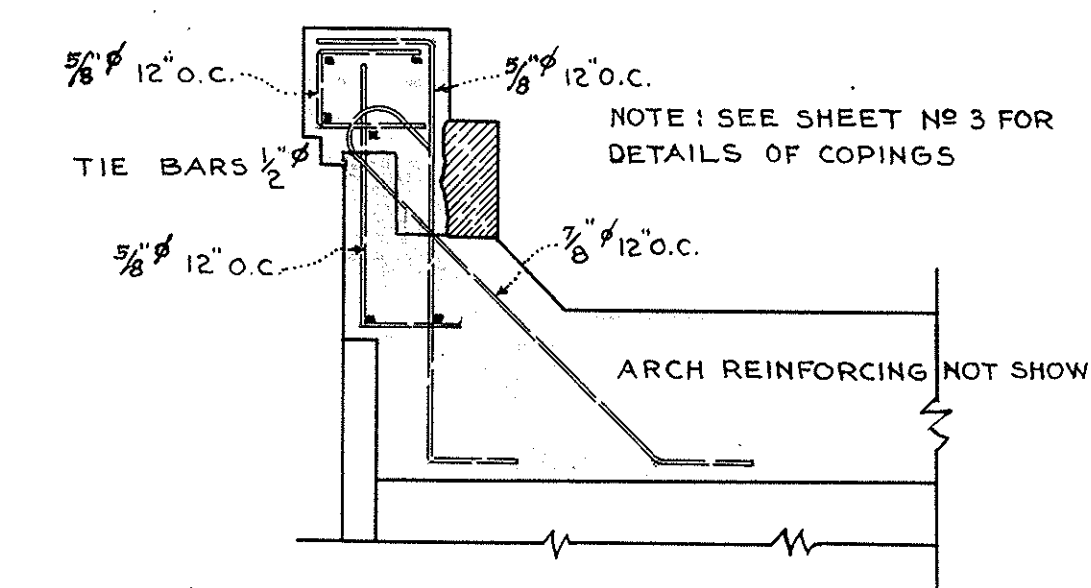
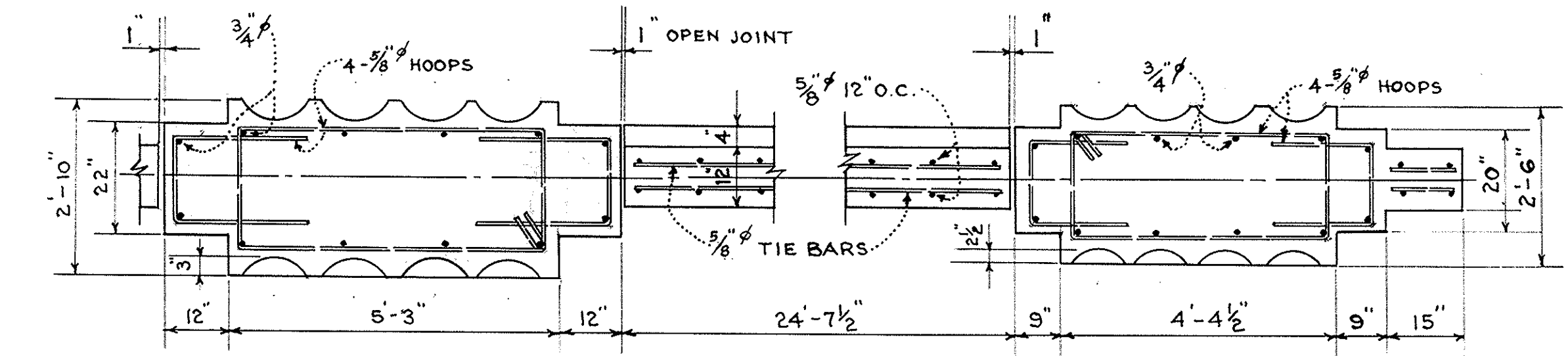
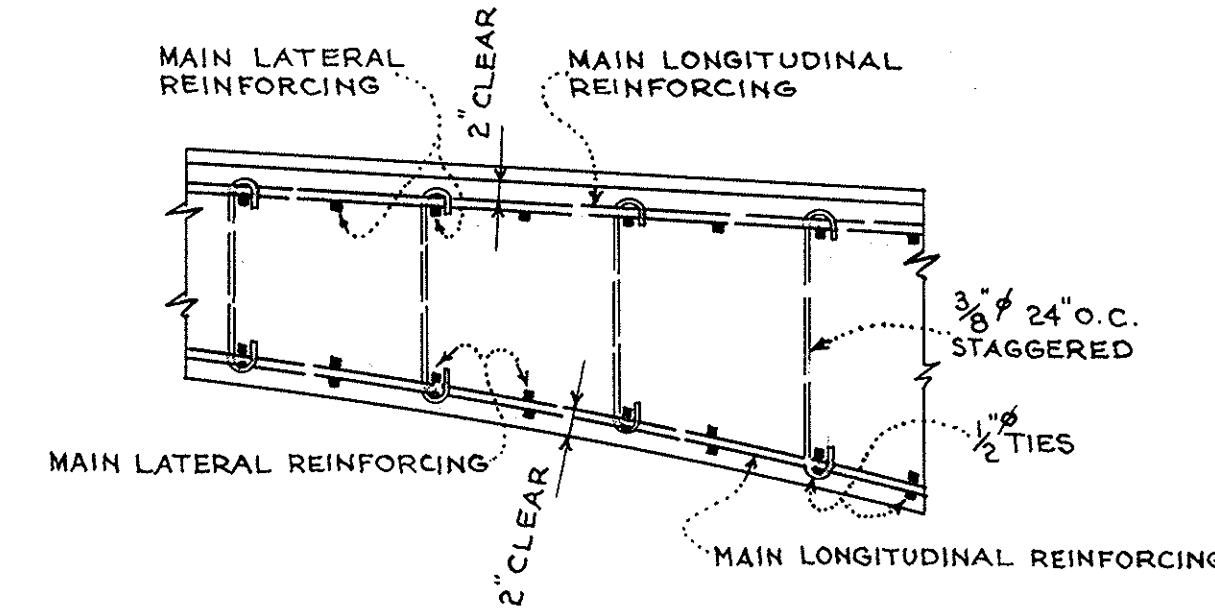
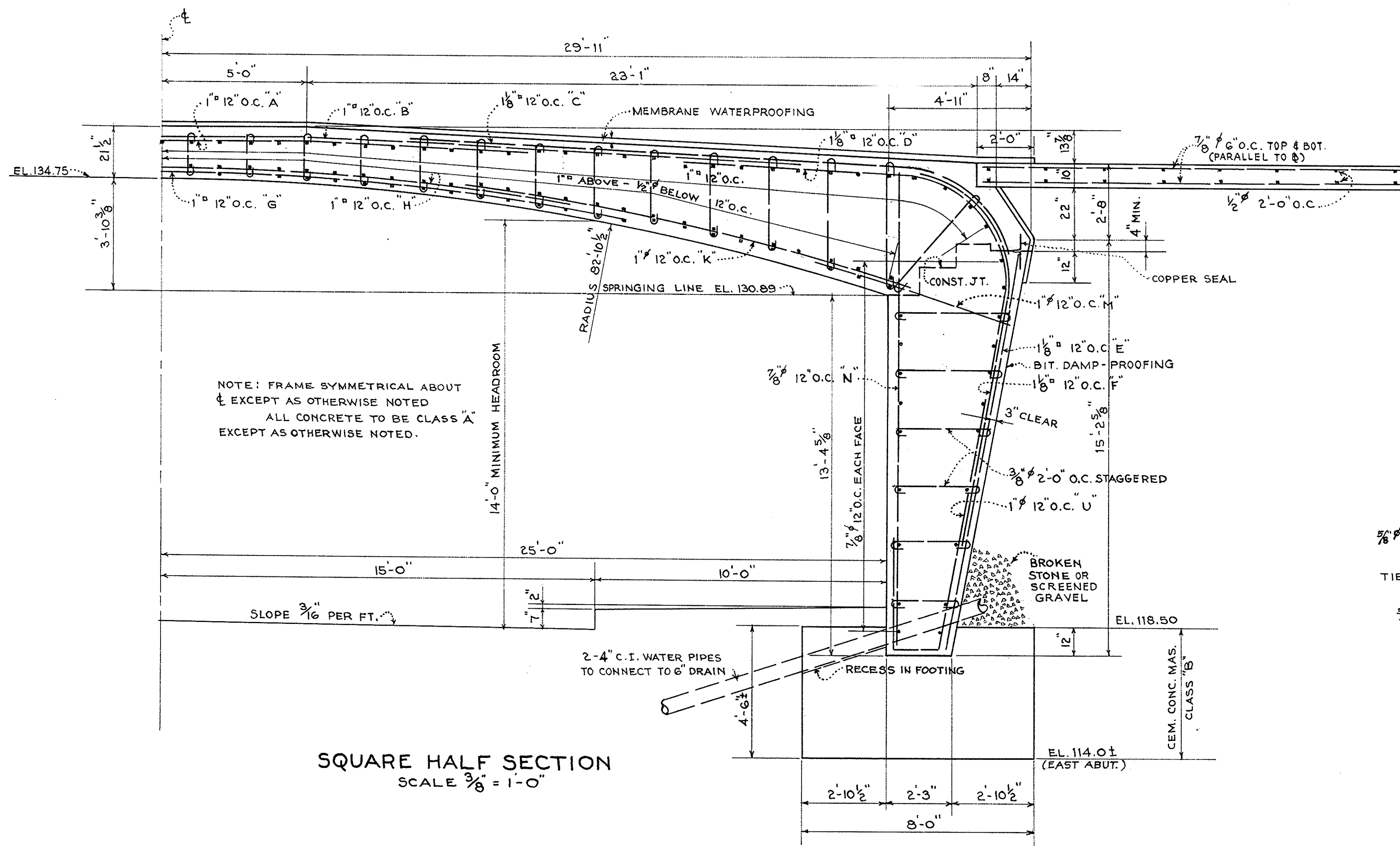
SHEET 1 OF 5 SHEETS BRIDGEN° L-19-7



PUB. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	MASS.	SN-FA 272-06		20	71

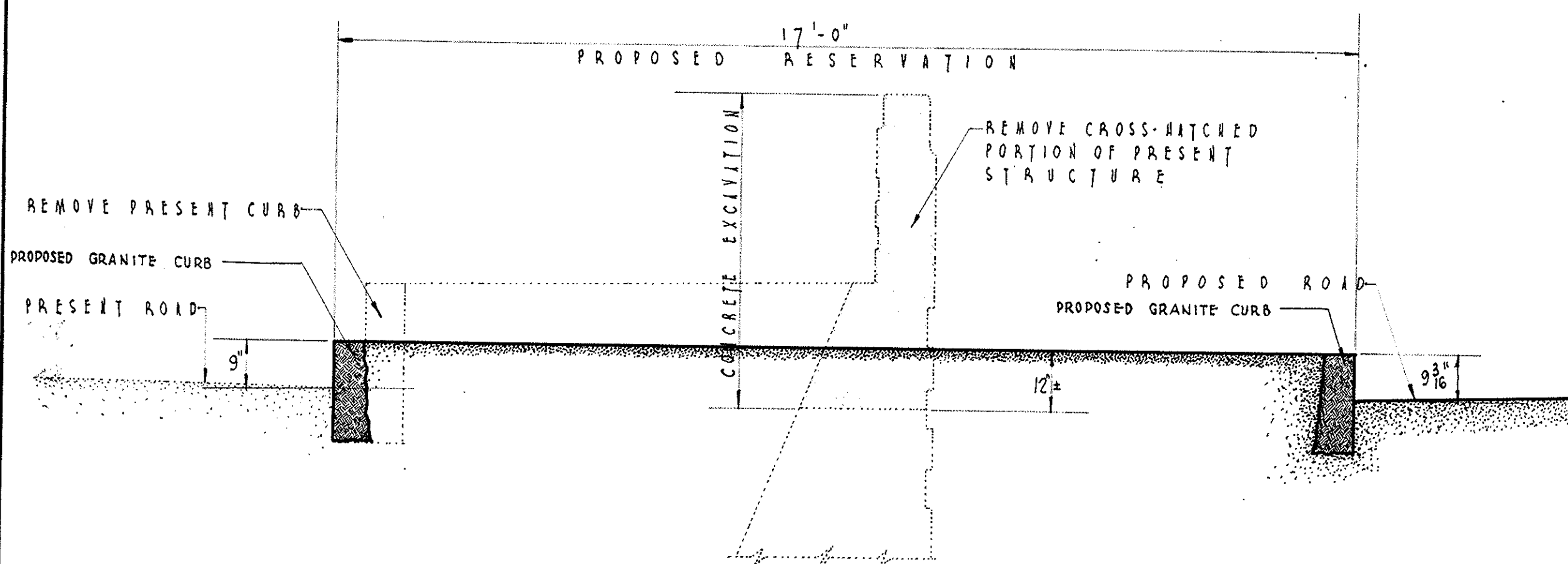
6-16-42	CONSTRUCTION
3-30-46	REVISION
8-1-46	REVISION
USE ONLY PRINTS OF LATEST DATE	

PUB. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	MASS.	5N-FA 27206	194	22	71

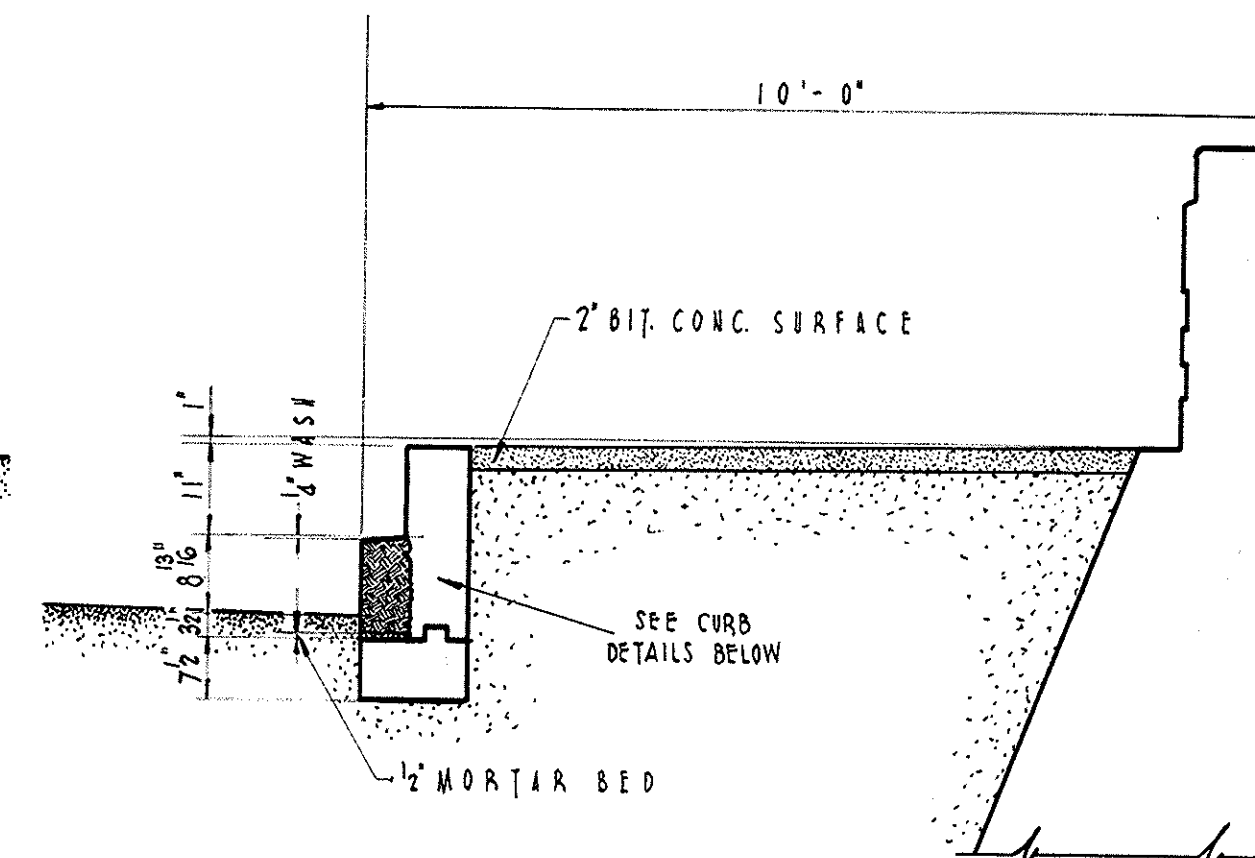


6-12-46	CONSTRUCTION
3-30-46	ADVERTISING
DATE	DESCRIPTION
USE ONLY PRINTS OF LATEST DATE	

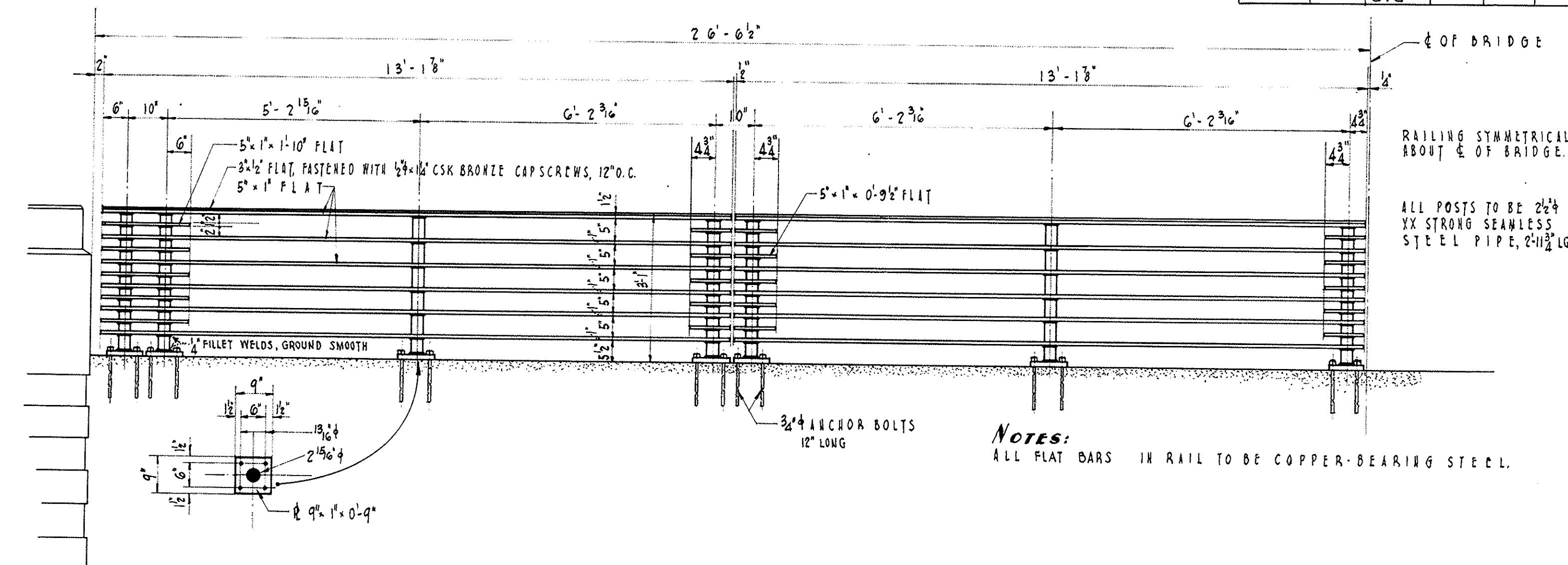
PUB. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	MASS.	5A-PA 27200	194	23	71



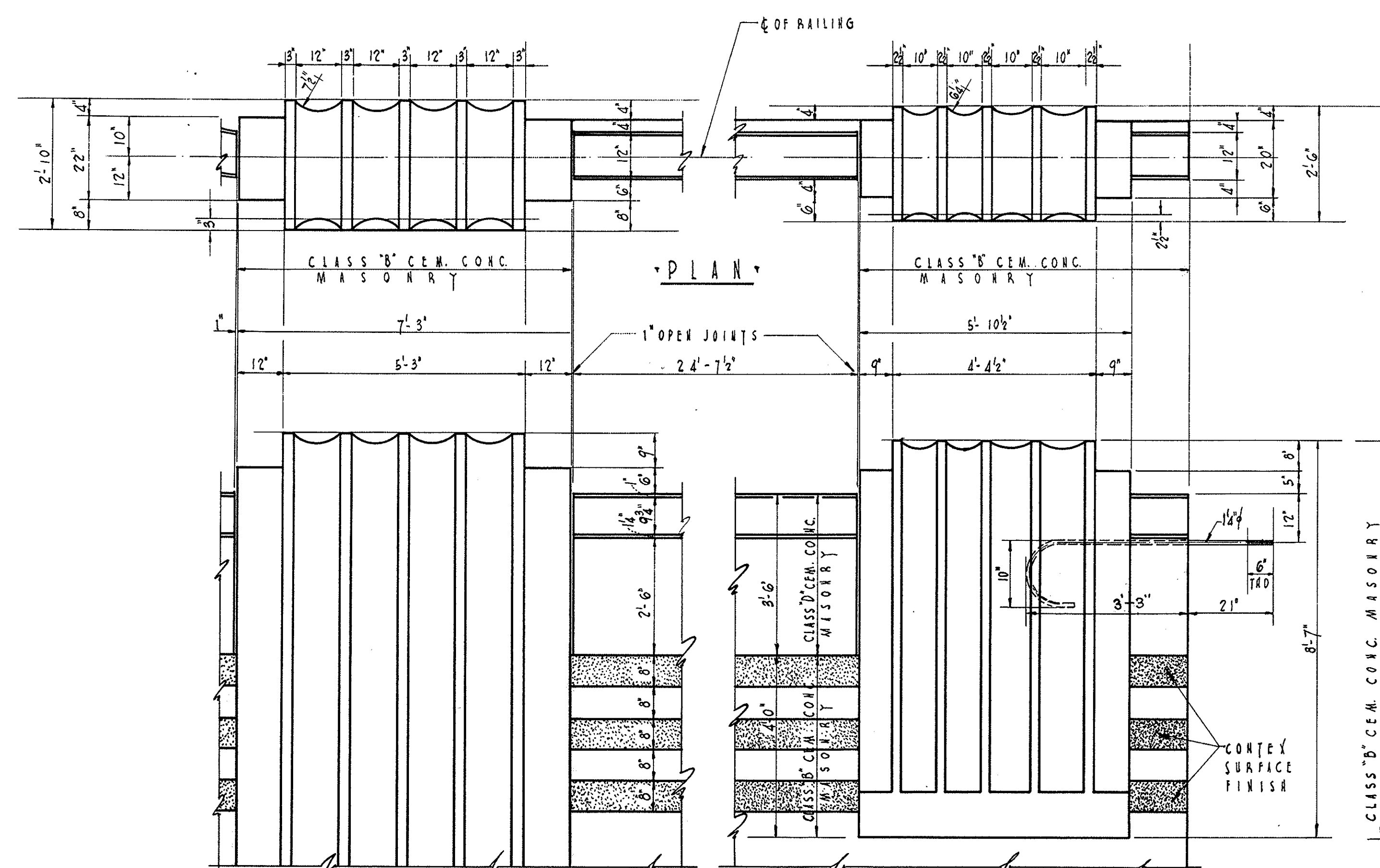
SECTION A-A
SCALE 1/2" = 1'-0"



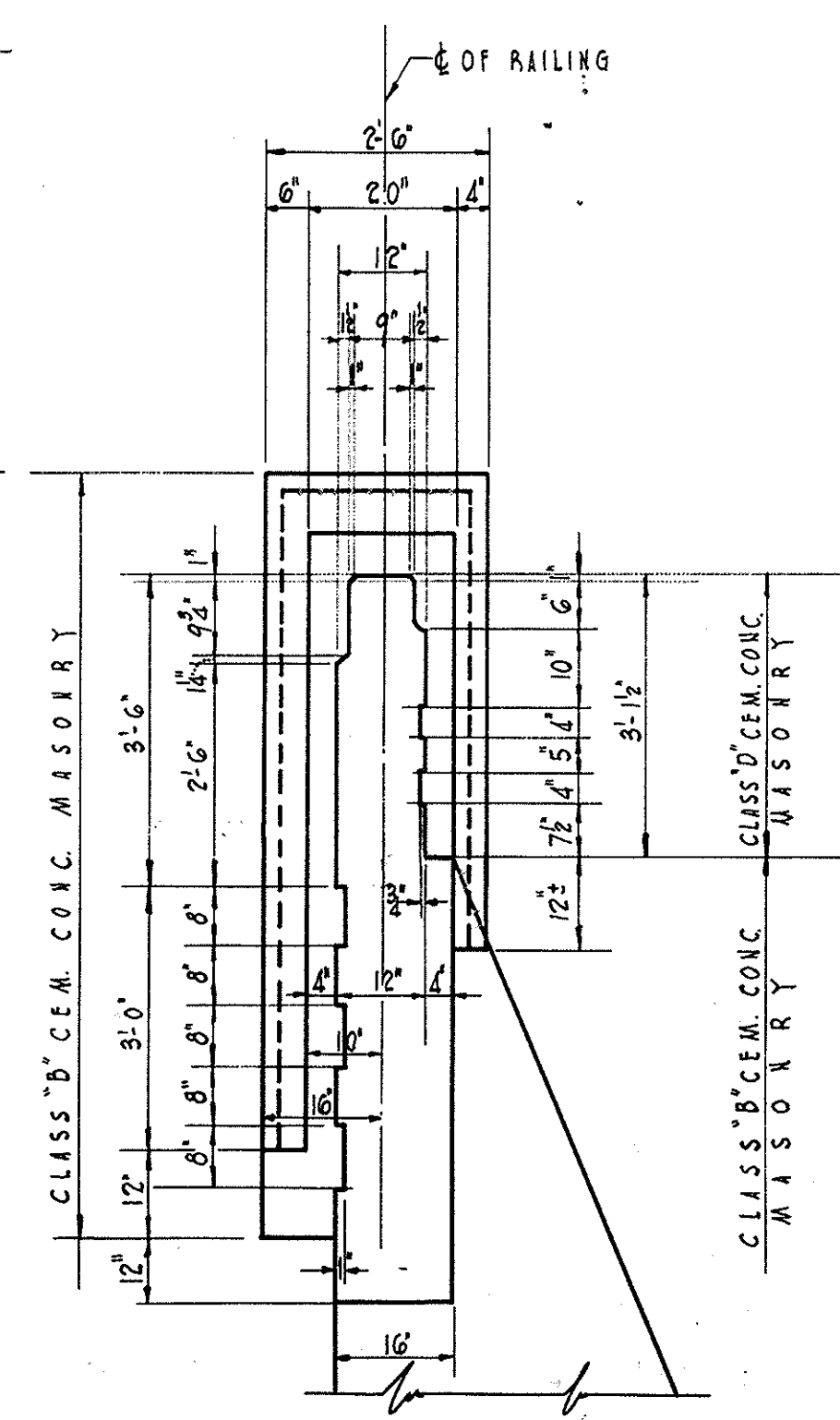
TYPICAL SECTION AT WING
SCALE 1/2" = 1'-0"



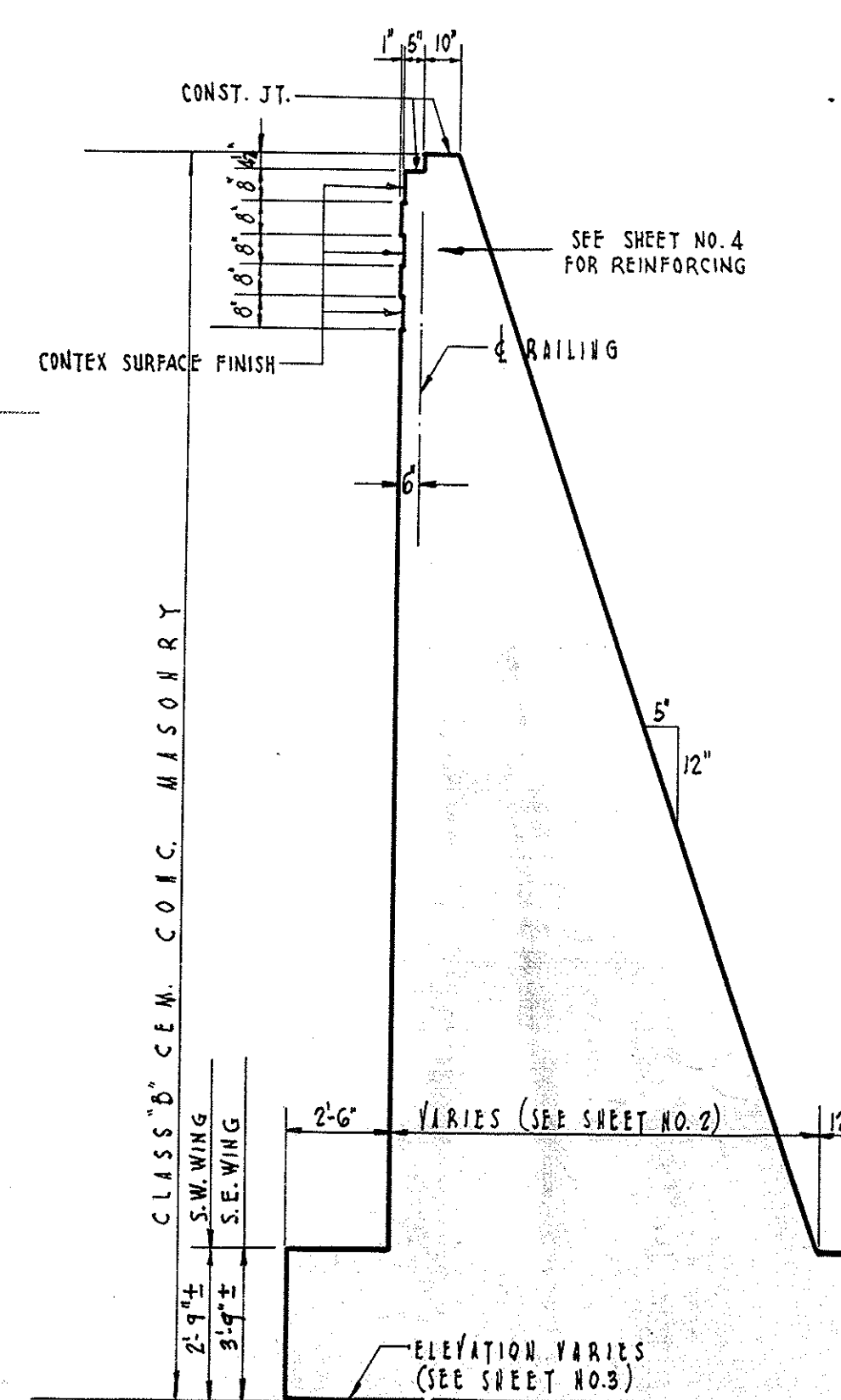
DETAIL OF METAL RAILING
SCALE 1/2" = 1'-0"



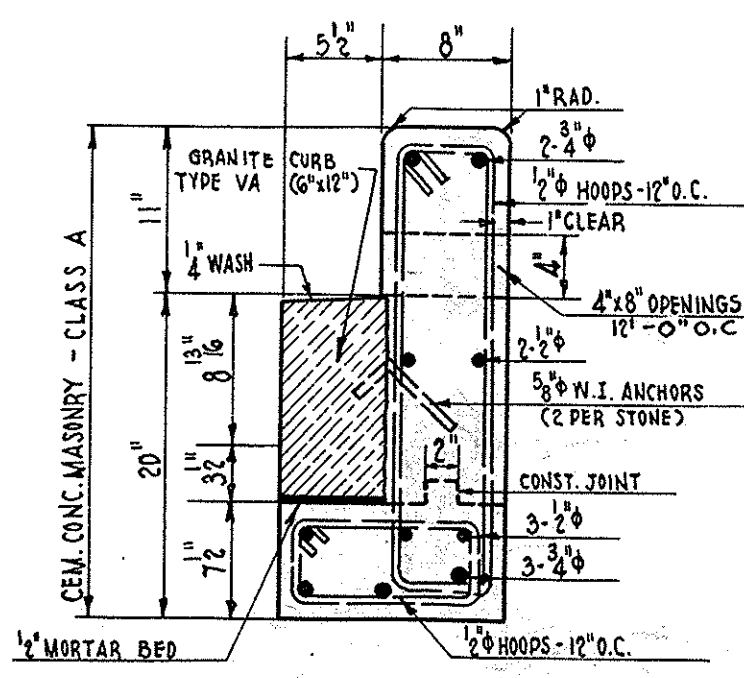
DETAILS OF PYLONS, POSTS, & FENCE
SCALE 1/2" = 1'-0"



END ELEVATION OF POST
SCALE 1/2" = 1'-0"



TYPICAL WALL SECTION
SCALE 1/2" = 1'-0"



CURB DETAILS - SECT. F-F
SCALE 1/2" = 1'-0"
SECT. F-F SAME SECT. F-F
EXCEPT GRANITE CURB OMITTED

6-14-46	CONSTRUCTION
3-30-46	ADVERTISING
DATE	DESCRIPTION
USE ONLY PRINTS OF LATEST DATE	

RUB. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	MASS.	272-07	194	32	123

GENERAL NOTES

DATE & SEAL:

TO BE PLACED ON INSIDE FACE OF FENCE AT NORTHEASTERLY AND SOUTHWEST-
ERLY ENDS OF BRIDGE. FOR LOCATION AND DETAILS OF NUMERALS SEE SHEET 4.

FOUNDATIONS:

MAY BE ALTERED IF NECESSARY TO SUIT CONDITIONS OF CONSTRUCTION.

DESIGN:

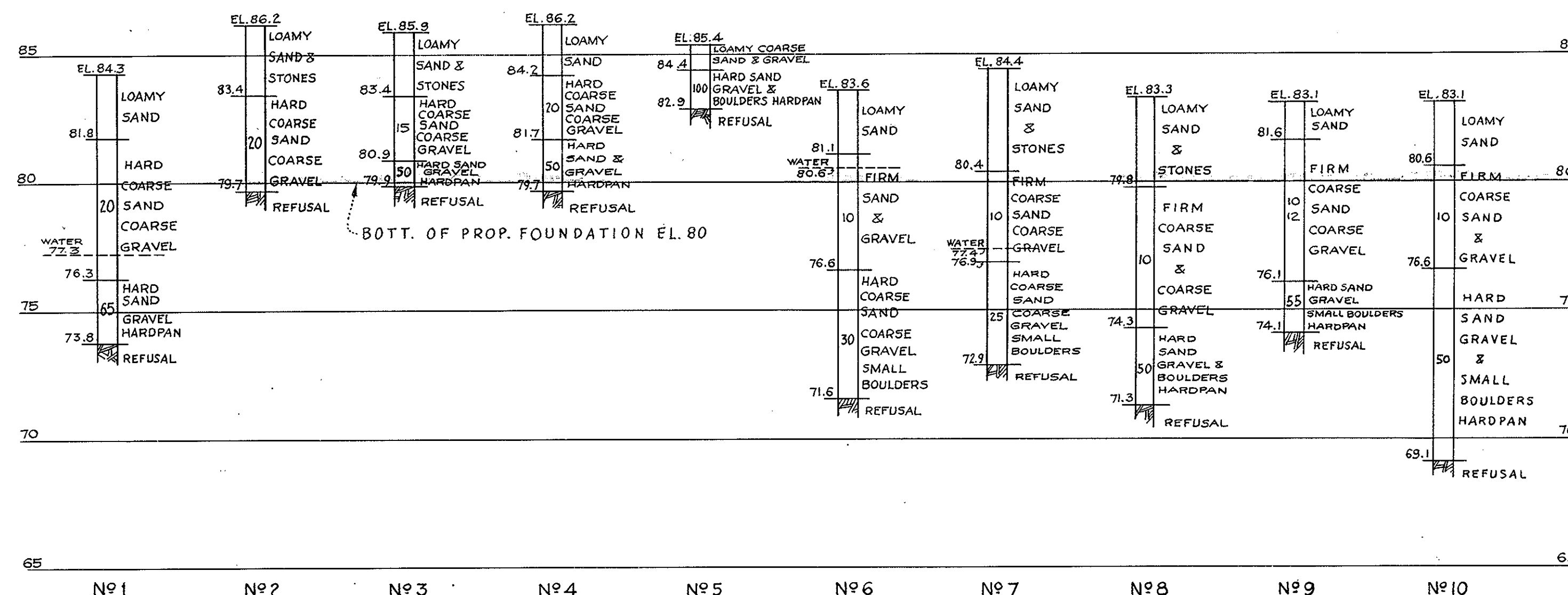
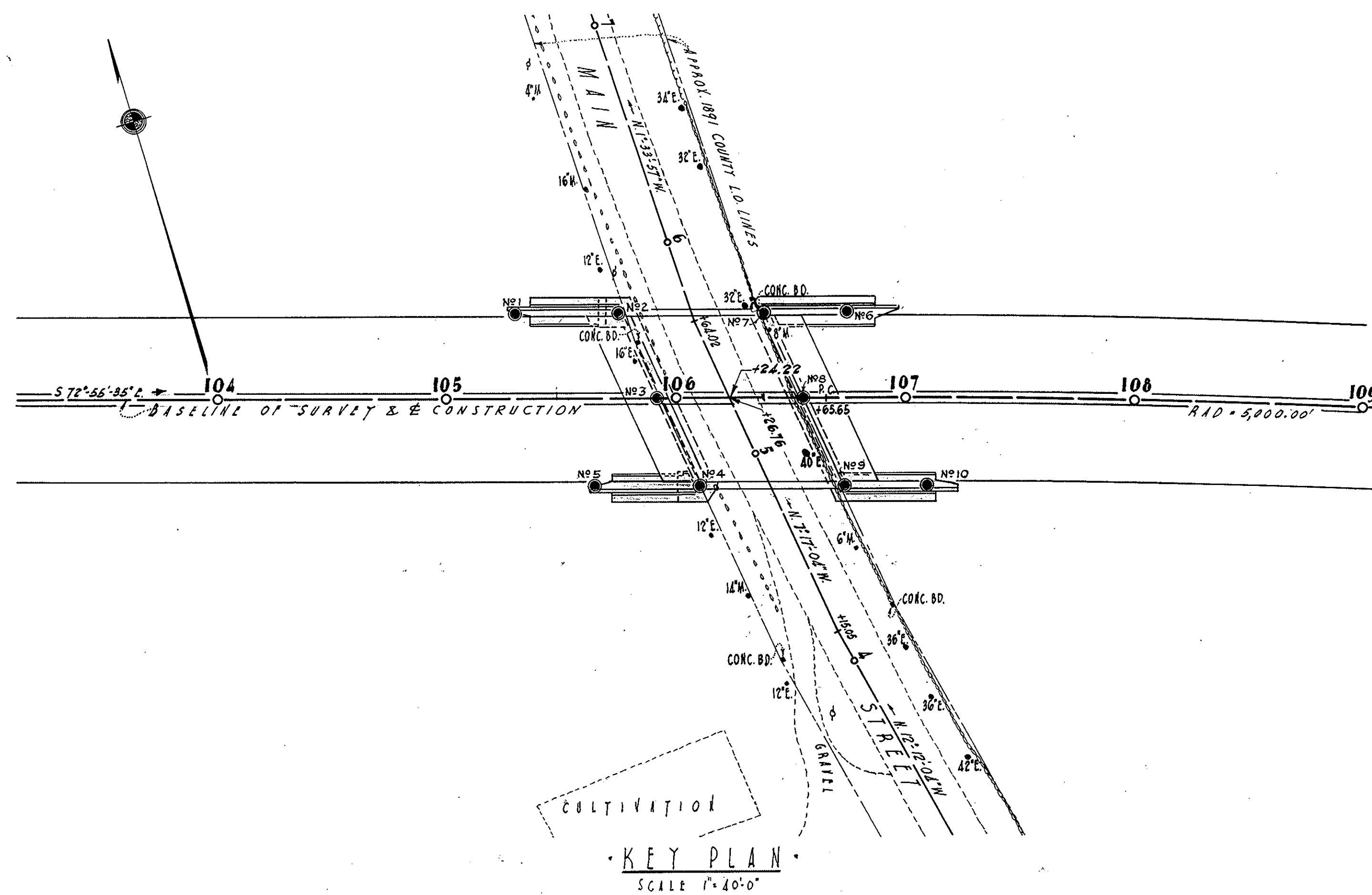
ACCORDING TO SPECIFICATIONS OF THE AMERICAN ASSOCIATION OF STATE
HIGHWAY OFFICIALS (1941 ED.) FOR H20 LOADING.

BENCH MARK:

HIGH POINT - TOWN LINE MON. STA. 95+45.76 AT BAY STATE RD. EL. 87.10
SEA LEVEL DATUM 1929.

ESTIMATED QUANTITIES (NOT GUARANTEED)

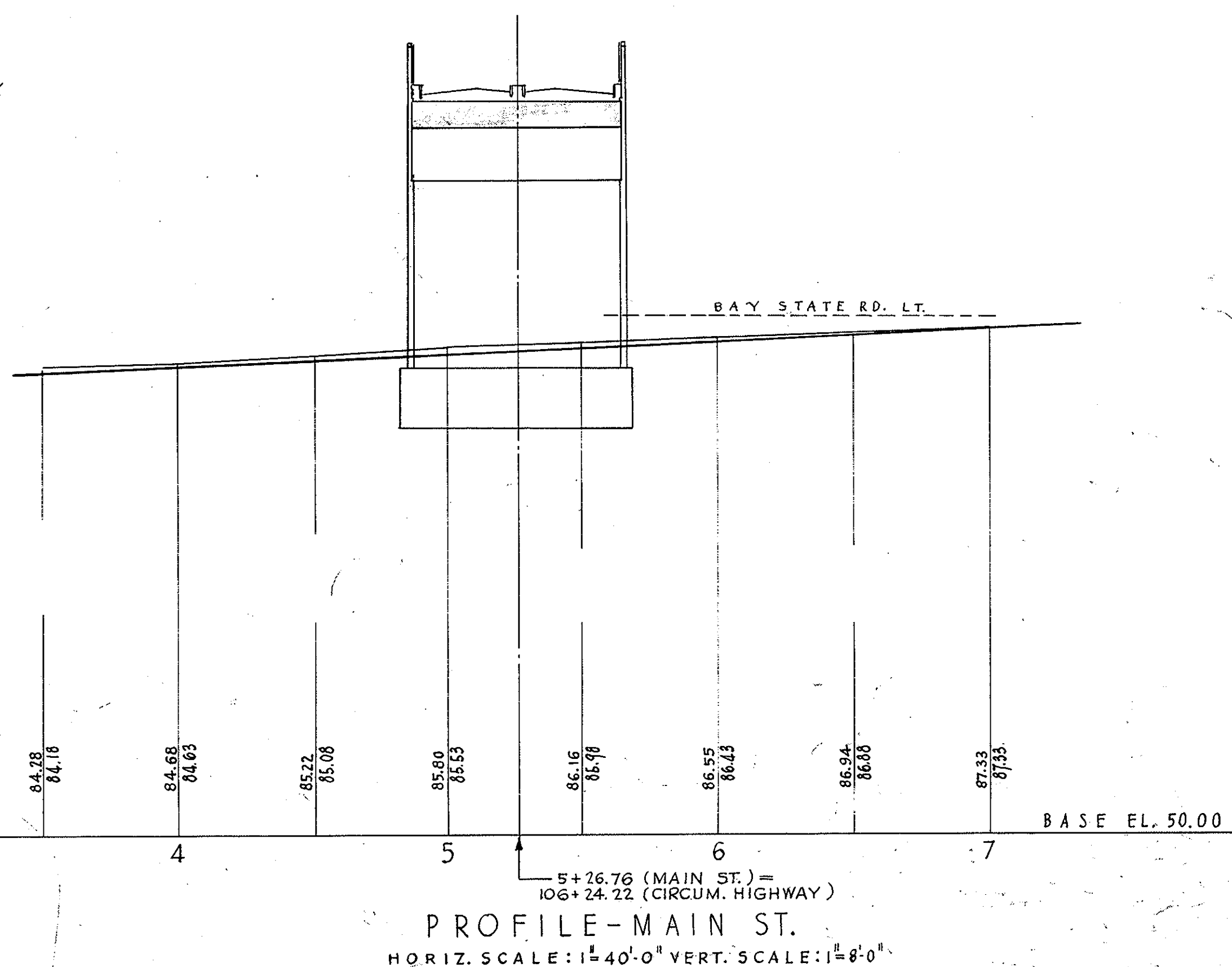
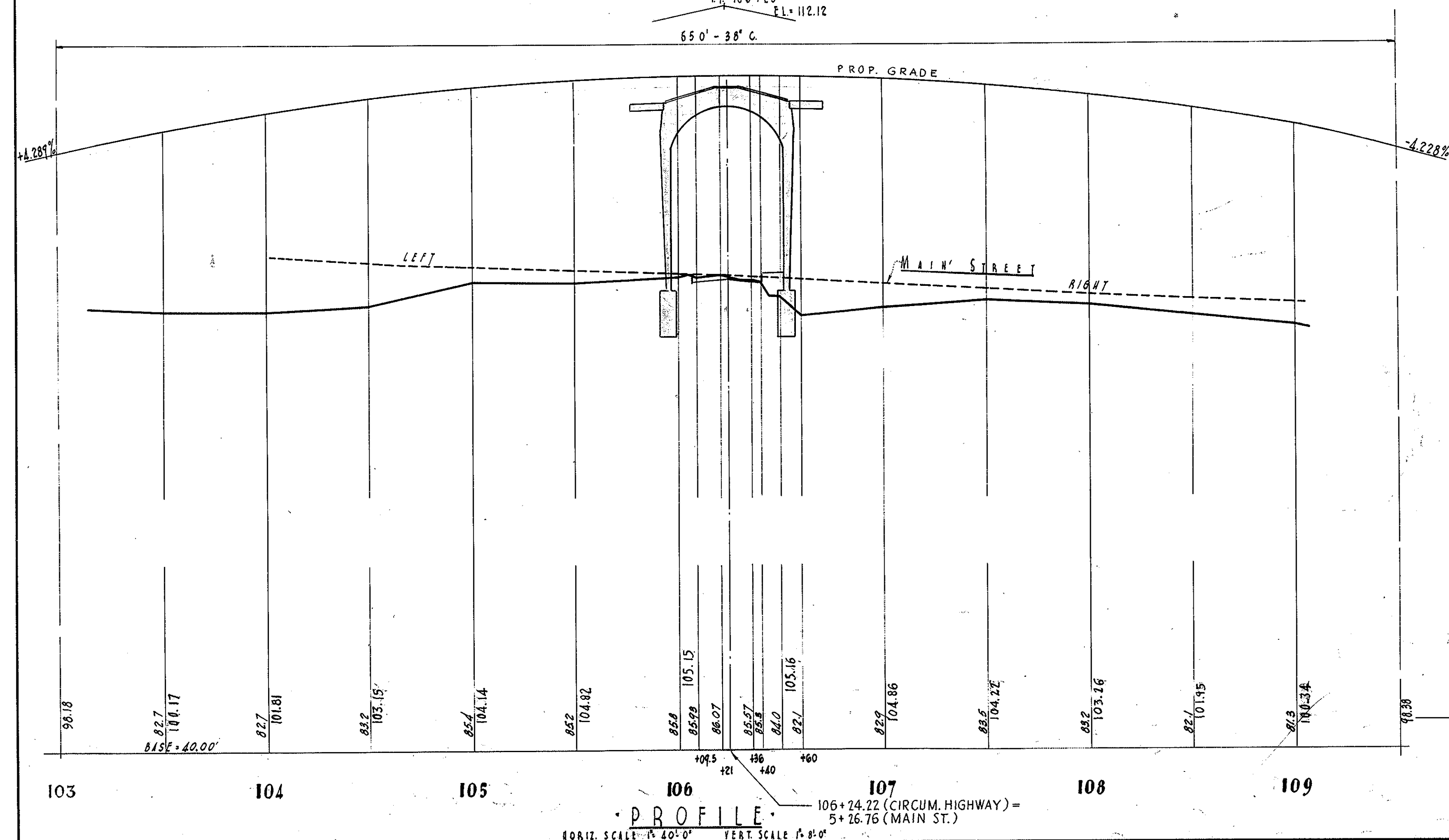
BRIDGE EXCAVATION	700	CU. YDS.
CLASS "B" ROCK EXCAVATION	20	CU. YDS.
GRAVEL BORROW	1,200	CU. YDS.
CEM. CONC. MASONRY - CLASS A	930	CU. YDS.
CEM. CONC. MASONRY - CLASS B	1,150	CU. YDS.
STEEL REINF. FOR STRUCTURES	125,000	POUNDS
MEMBRANE WATERPROOFING	700	SQ. YDS.
BITUMINOUS DAMP-PROOFING	480	SQ. YDS.
METAL BRIDGE RAILINGS - TYPE A	138	LIN. FT.
HIGHWAY GUARD BRIDGE ANCHORS (C33)	4	EACH
SPLIT GRAY GRANITE CAPSTONE 22"x6"	193	LIN. FT.
SPLIT GRAY GRANITE COPING 18"x12"	138	LIN. FT.
SPLIT GRAY GRANITE RING STONE	385	SQ. FT.
STONE FACING	4400	SQ. FT.
GRANITE CURB TYPE V.A.S.T.R. (6"x12")	138	LIN. FT.
STRIPPING GRAVEL PITS	120	CU. YDS.
WATERPROOFING PROTECTIVE COURSE	600	SQ. YDS.



BORING DATA SCALE: 1" = 4'-0" BORINGS TAKEN MAY-1944

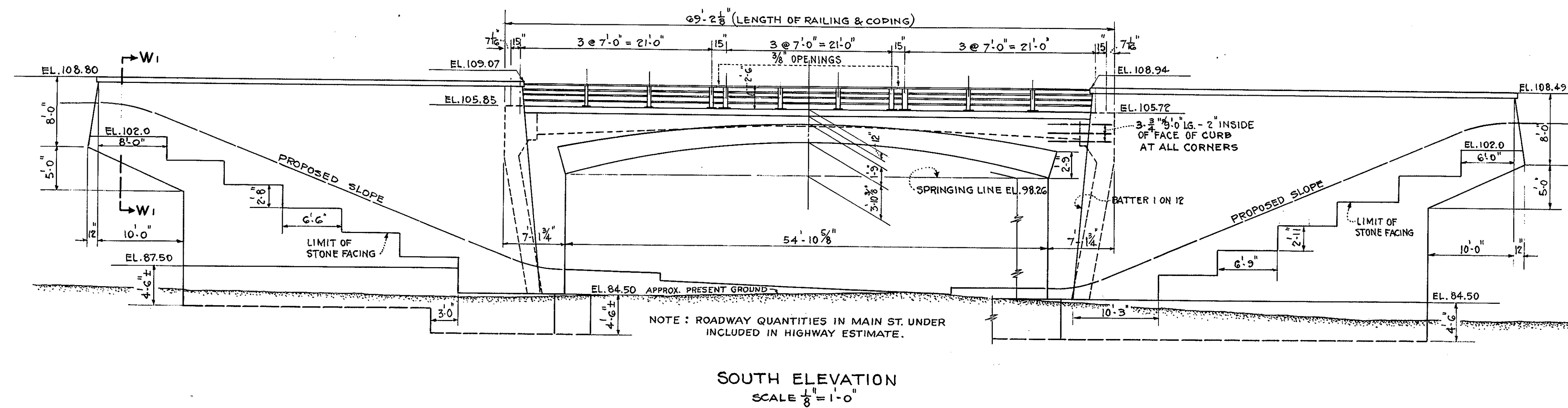
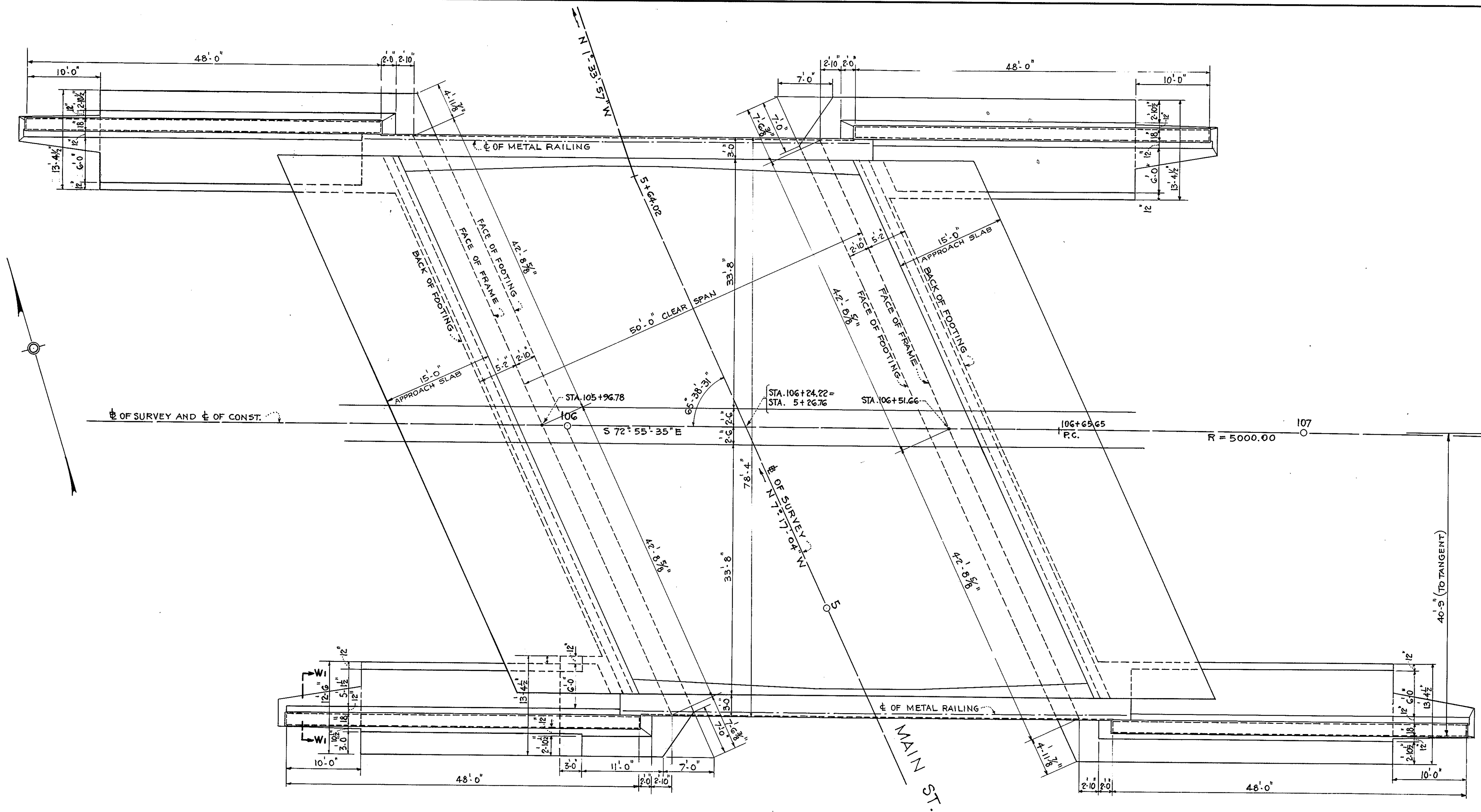
BORING NOTES:

LOCATION OF BORINGS SHOWN ON KEY PLAN THUS ●
BORINGS TAKEN FOR PURPOSE OF DESIGN AND SHOW CONDITIONS AT BORING POINTS ONLY,
BUT DO NOT NECESSARILY INDICATE NATURE OF MATERIAL TO BE ENCOUNTERED IN CONNECTION
WITH THE CONSTRUCTION OF THE BRIDGE.
FIGURES IN COLUMNS INDICATE BLOWS PER FOOT ON 1" PIPE PRODUCED BY 30" DROP OF
140# HAMMER. SAMPLES OF BORINGS ARE AVAILABLE AND MAY BE SEEN AT THE OFFICE
OF THE BRIDGE ENGINEER MR. R.O. SPOFFORD ROOM 609.



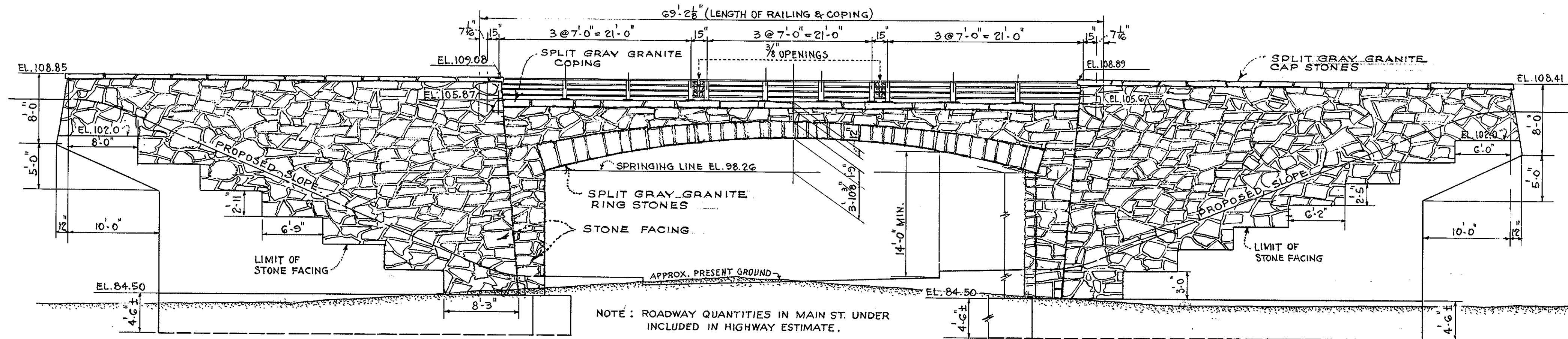
DATE	SHEET NOS.	DESCRIPTION
LIST OF REVISIONS - USE ONLY PRINTS OF LATEST DATE		
THE COMMONWEALTH OF MASSACHUSETTS PROPOSED BRIDGE LYNNFIELD NORTHERN CIRCUMFERENTIAL HIGHWAY STA. 106+24.22 OVER MAIN ST. SCALES AS NOTED OFFICE OF DEPARTMENT OF PUBLIC WORKS 100 NASHUA ST. - BOSTON, MASS. APRIL 1948		
DESIGNED BY W.A.H. TRACED BY A.A. J.F.G. CHECKED BY J.R.B.		DATE OF ISSUE
ADVERTISING CONSTRUCTION		DATE OF ISSUE
4-3-48		4-27-48

PUB. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	MASS.	272(7)	194	33	123

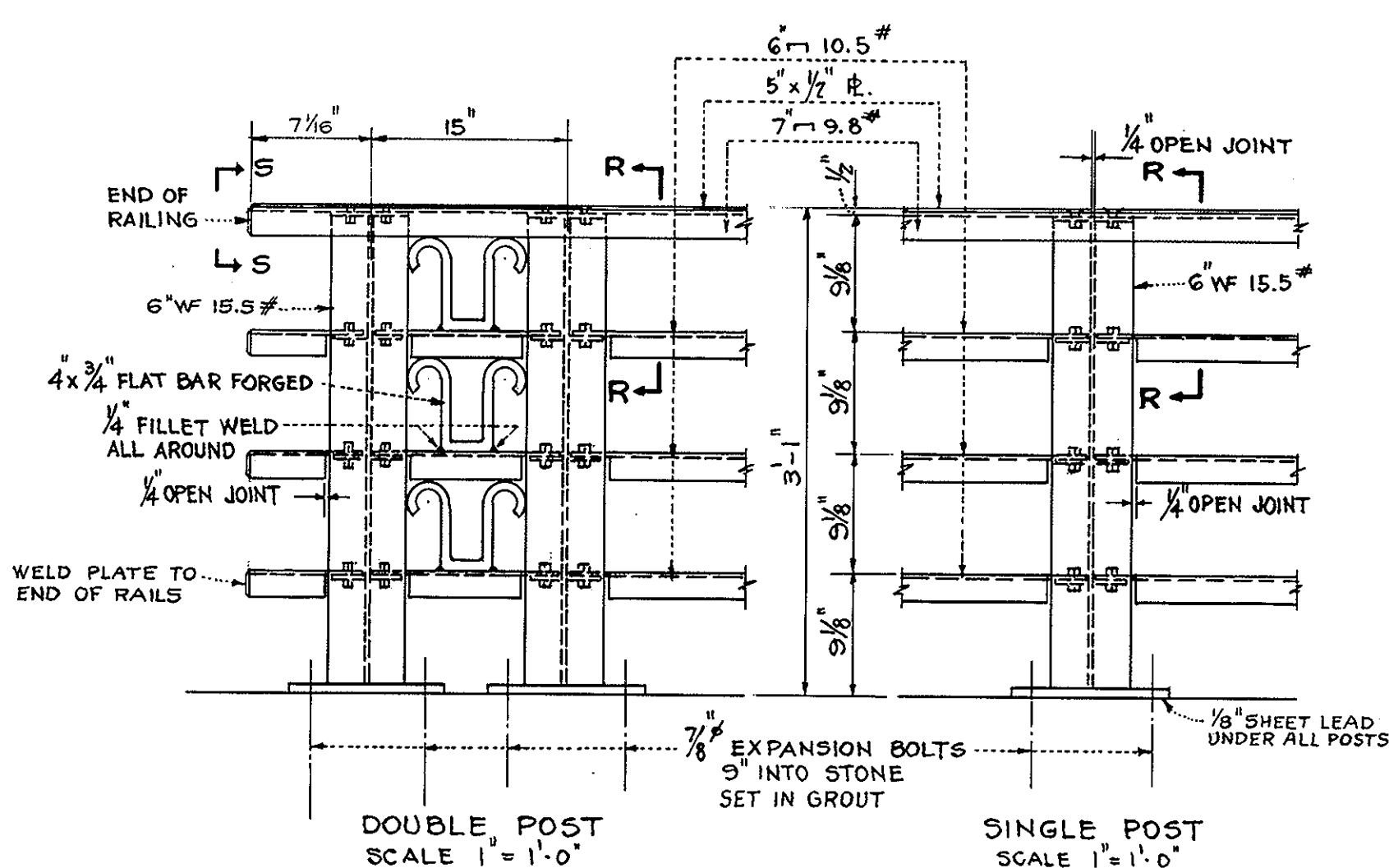


4-27-48	CONSTRUCTION
4-3-48	ADVERTISING
DATE	DESCRIPTION
USE ONLY PRINTS OF LATEST DATE	

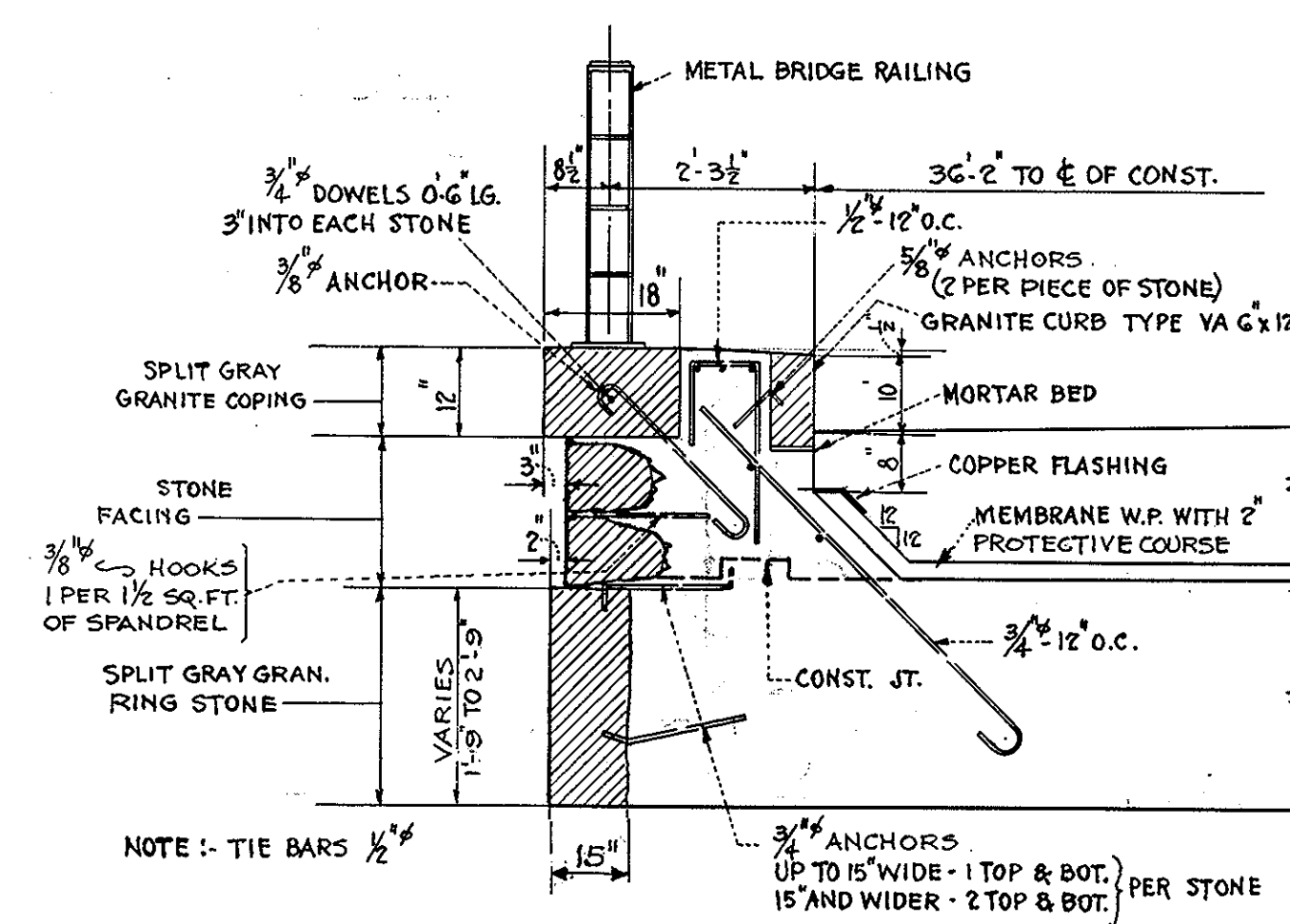
PUB. ROAD DIV. NO	STATE	FED. AID PROJ. NO	FISCAL YEAR	SHEET NO	TOTAL SHEETS
↓	MASS.	272(17)	194	34	123



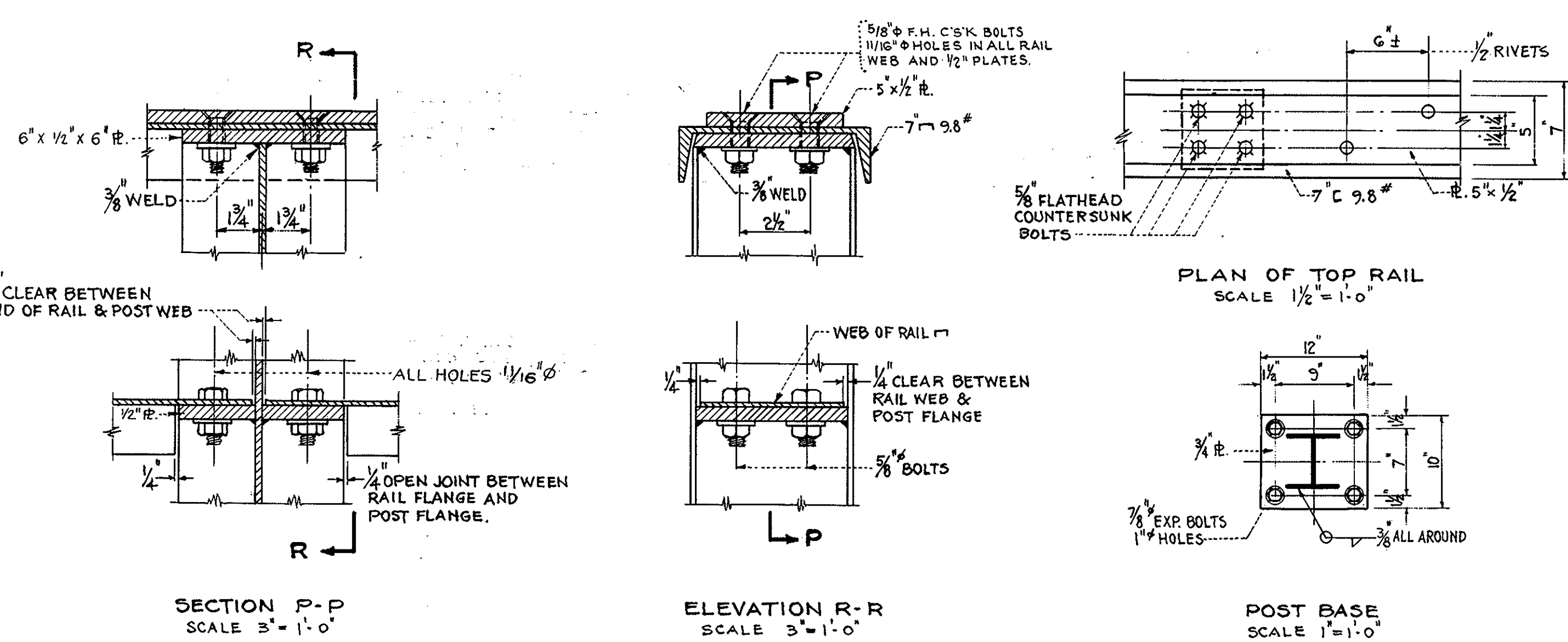
NORTH ELEVATION
SCALE $\frac{1}{8}'' = 1'-0''$



POST DETAIL
SCALE 1" = 1'-0"

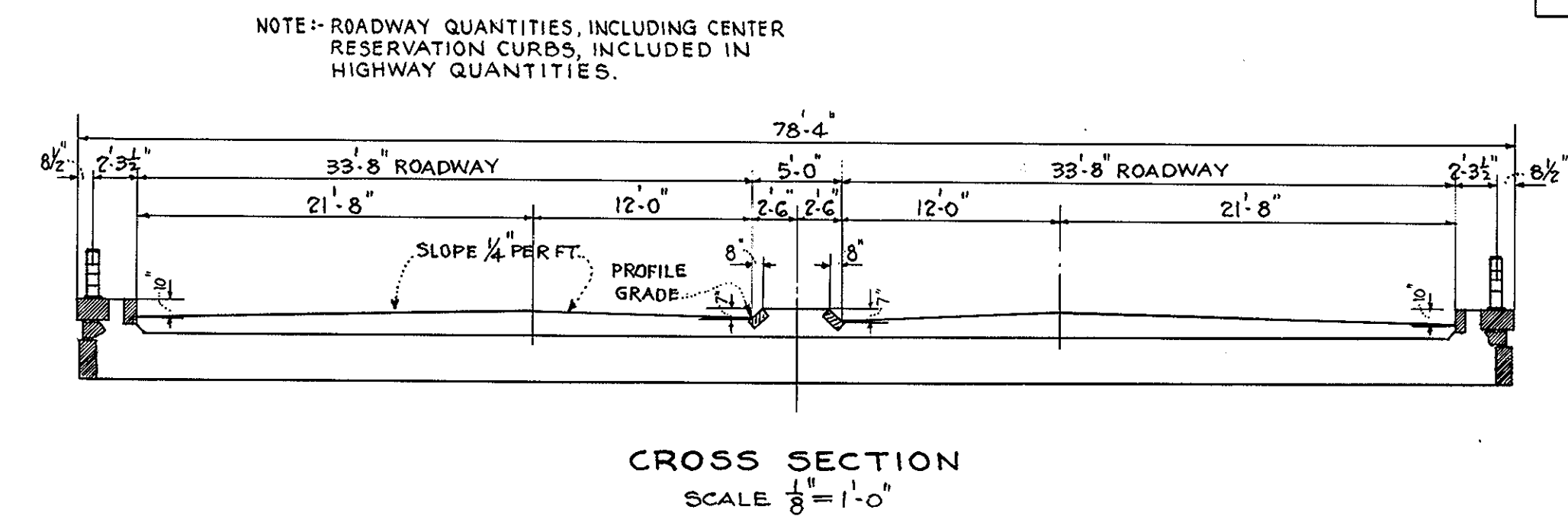


SPANDREL DETAILS
SCALE $\frac{1}{2}" = 1'-0"$

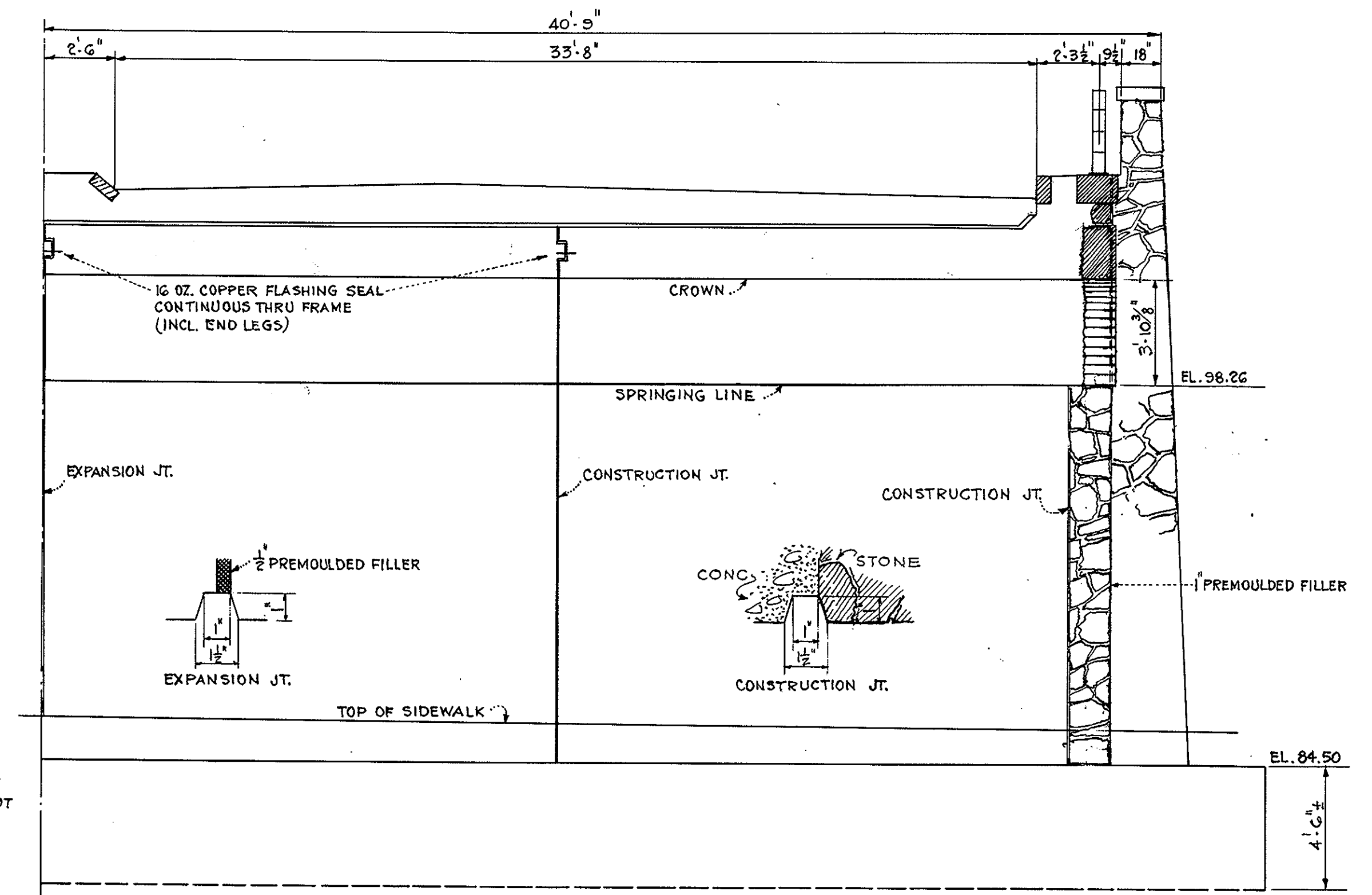


DETAILS OF BRIDGE RAILING
SCALES AS SHOWN

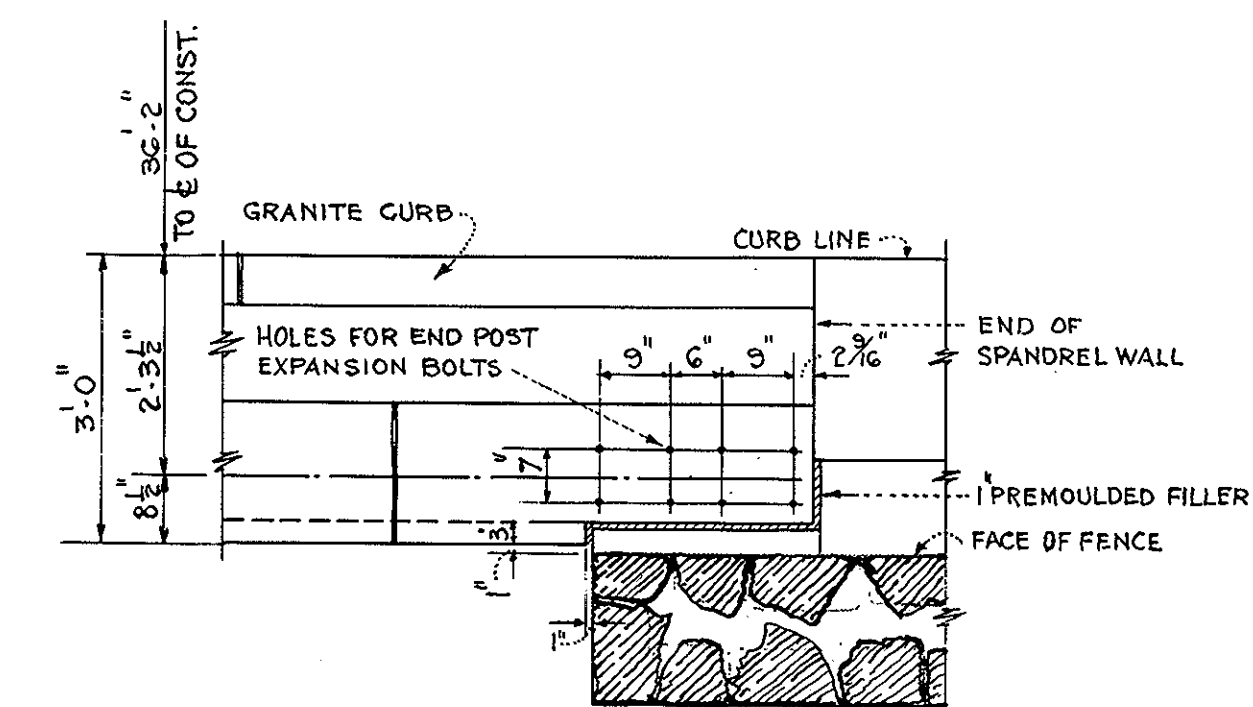
NOTE : ALL PARTS OF RAILING ARE COPPER BEARING STRUCTURAL STEEL.



CROSS SECTION
SCALE $\frac{1}{8}'' = 1'-0''$

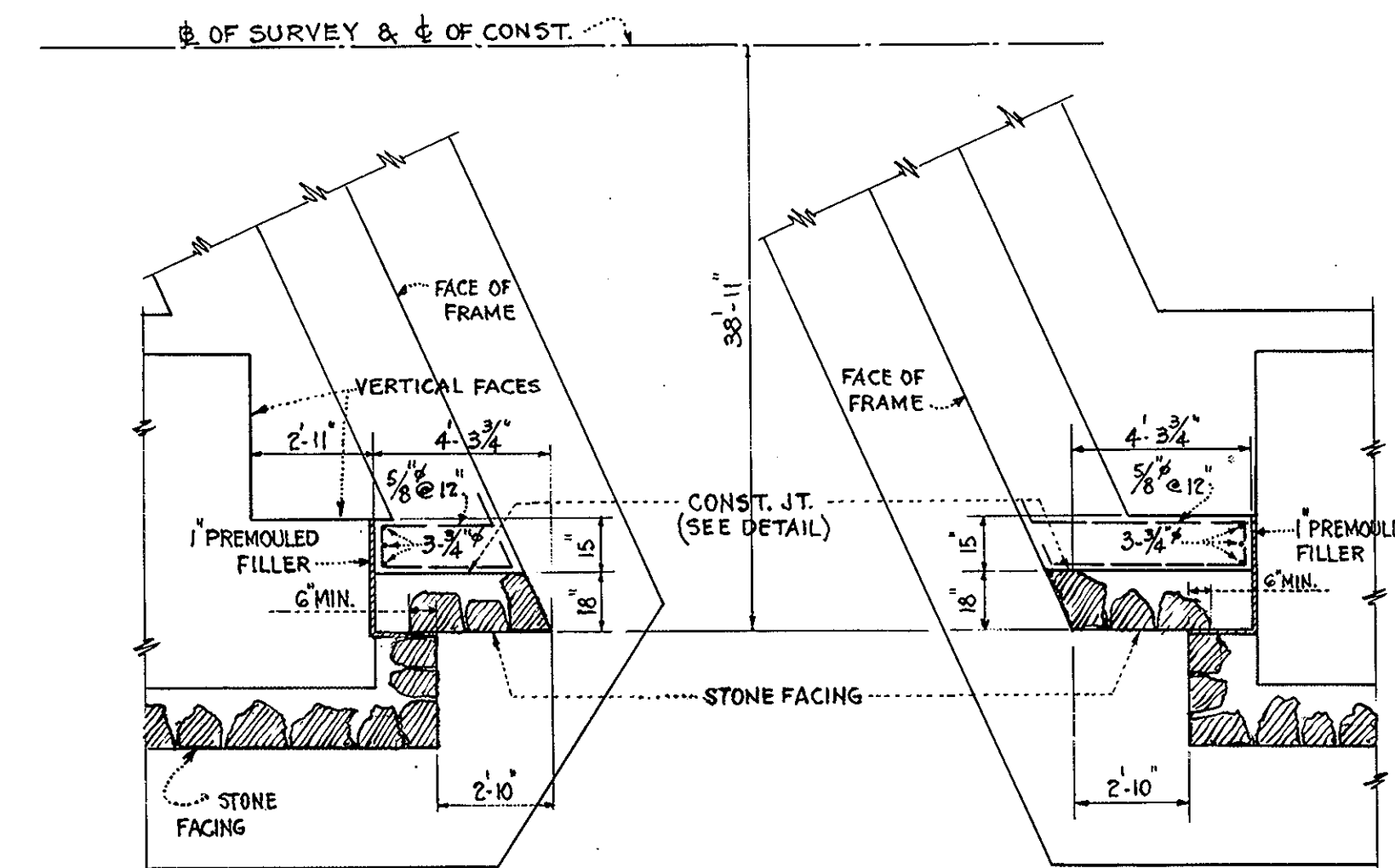
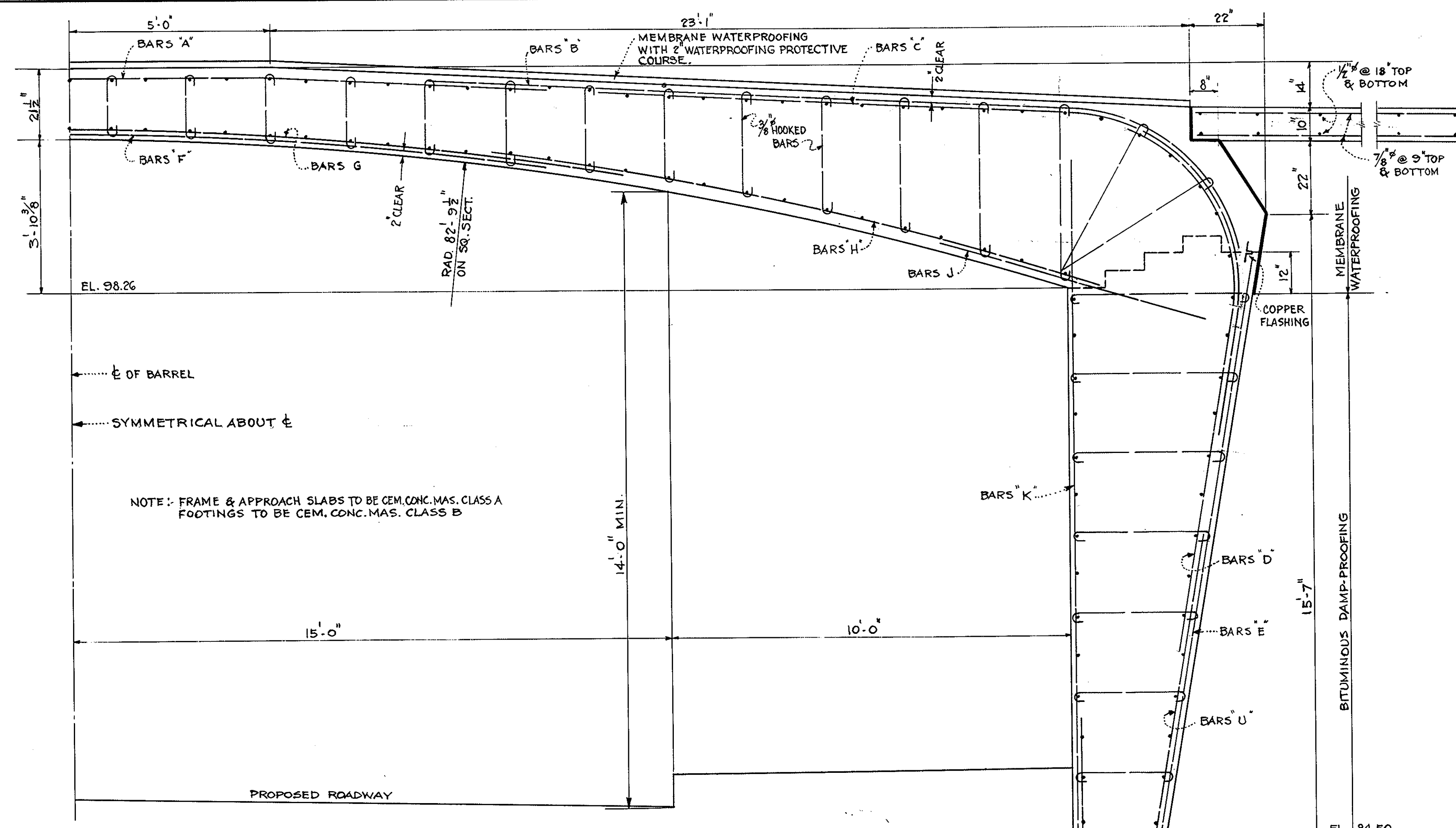


HALF CROSS SECTION
SCALE $\frac{1}{4}" = 1'-0"$

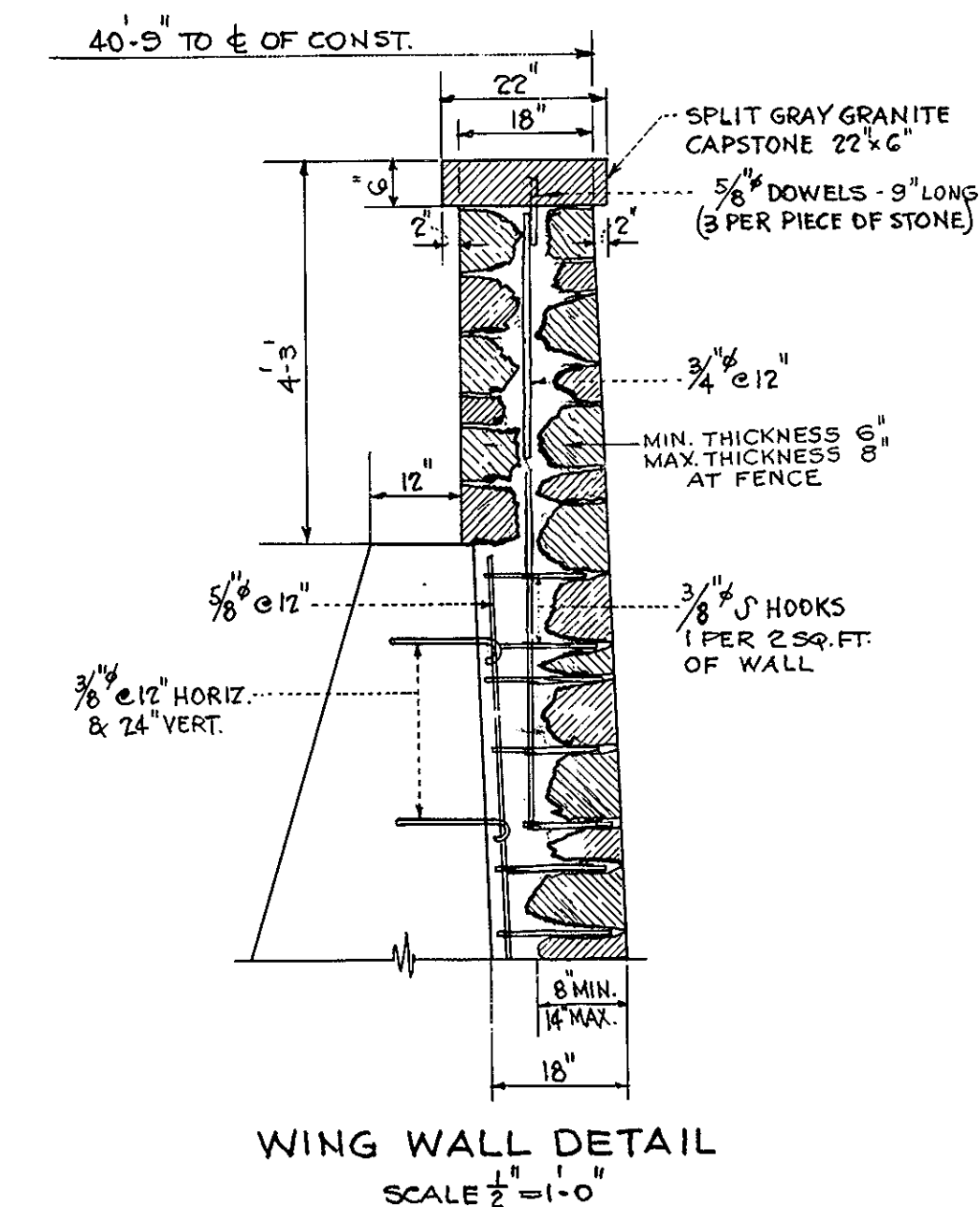


PLAN AT RAILING END POST
SCALE $\frac{1}{2}'' = 1'-0''$

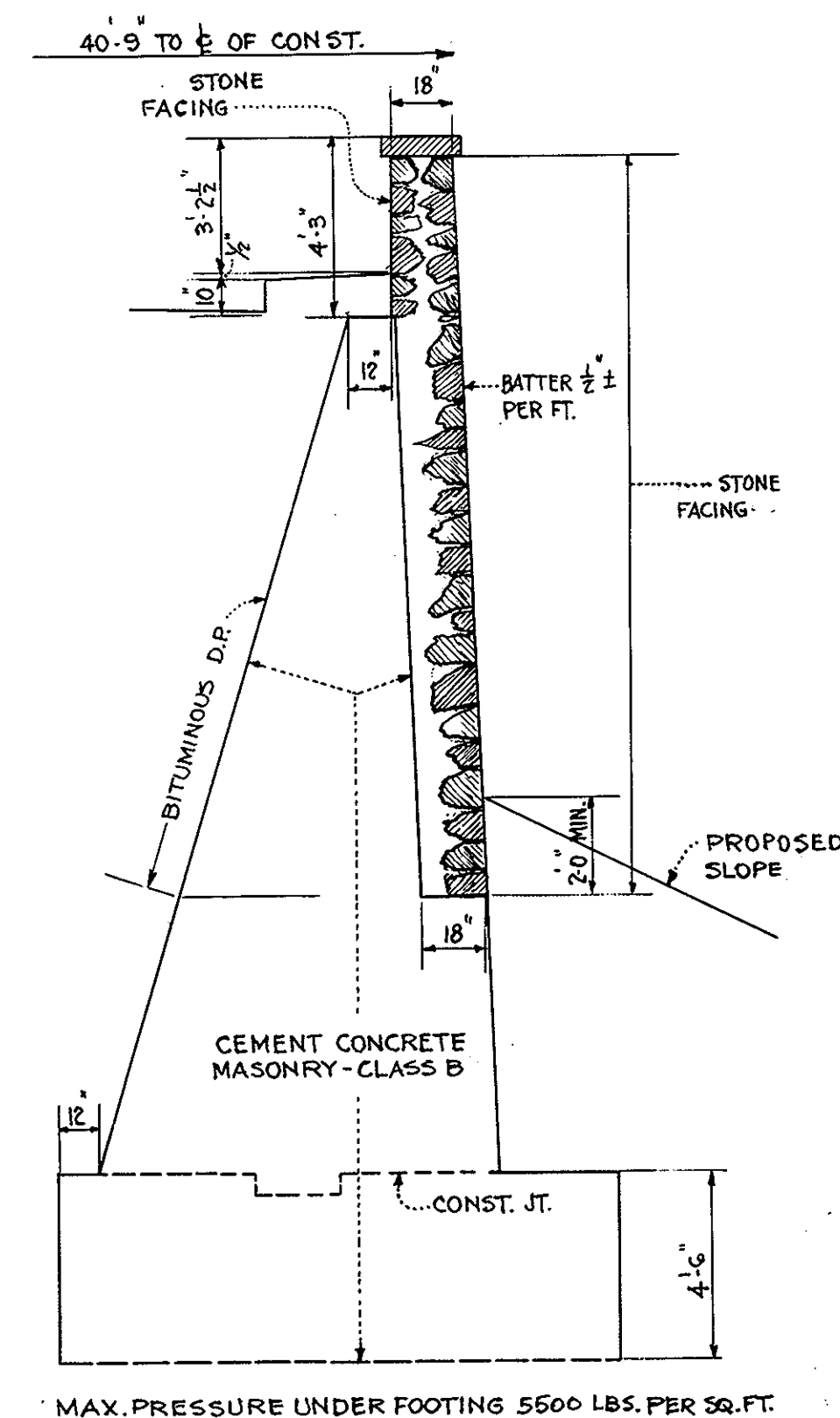
4-27-48	CONSTRUCTION
4-3-48	ADVERTISING
DATE	DESCRIPTION
USE ONLY PRINTS OF LATEST DATE	



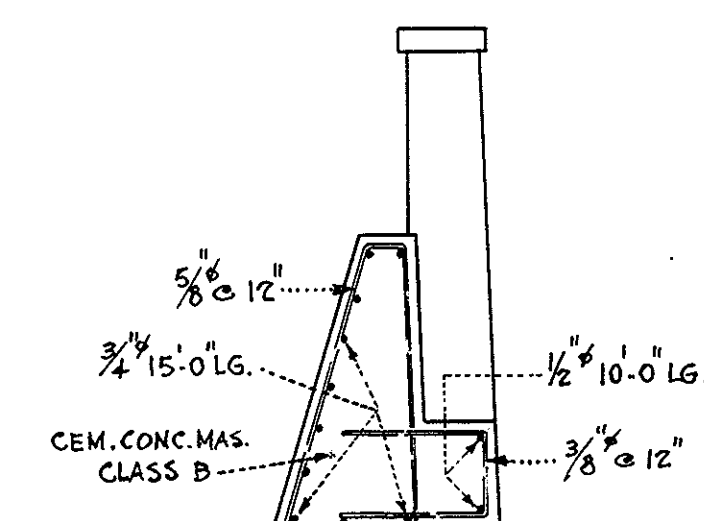
PLAN AT FOOTING (ELEV. 84.50)
SCALE $\frac{1}{4}" = 1'-0"$



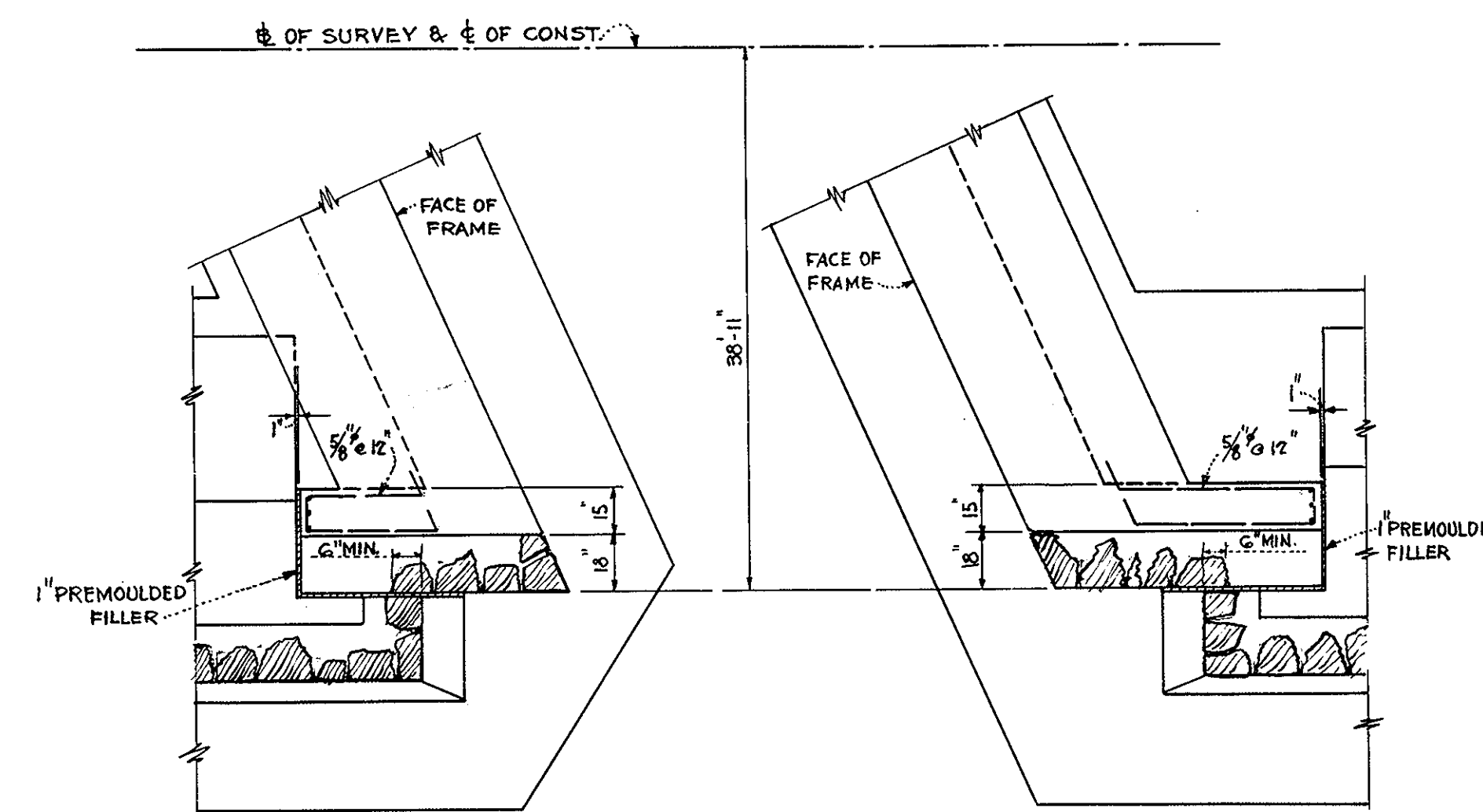
WING WALL DETAIL
SCALE $\frac{1}{2}'' = 1'-0''$



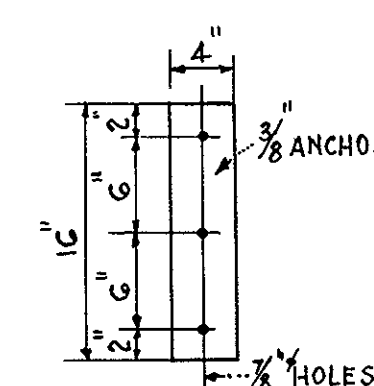
SECTION OF WING WALL
SCALE $\frac{1}{4}'' = 1'-0''$



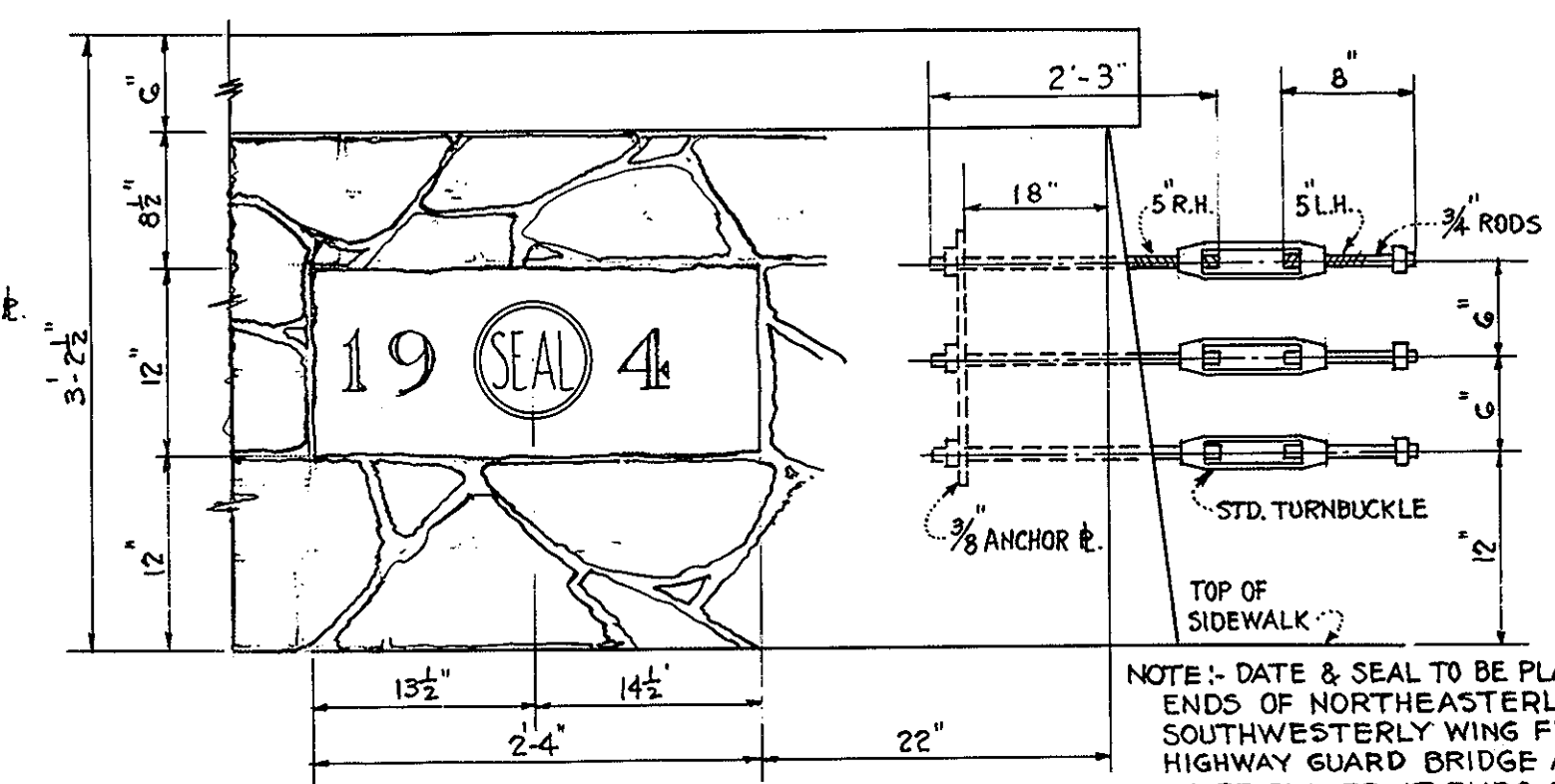
SECTION W₁ - W₁
SCALE $\frac{1}{4}'' = 1'-0''$



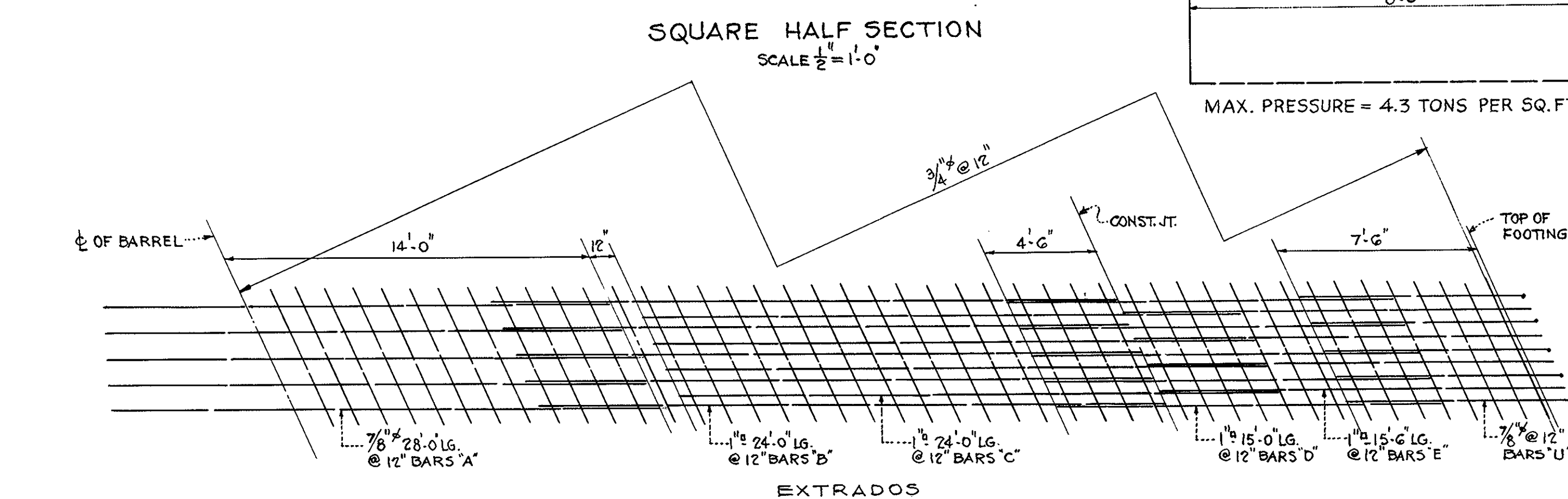
PLAN AT SPRINGING LINE
SCALE $\frac{1}{4}'' = 1'-0''$



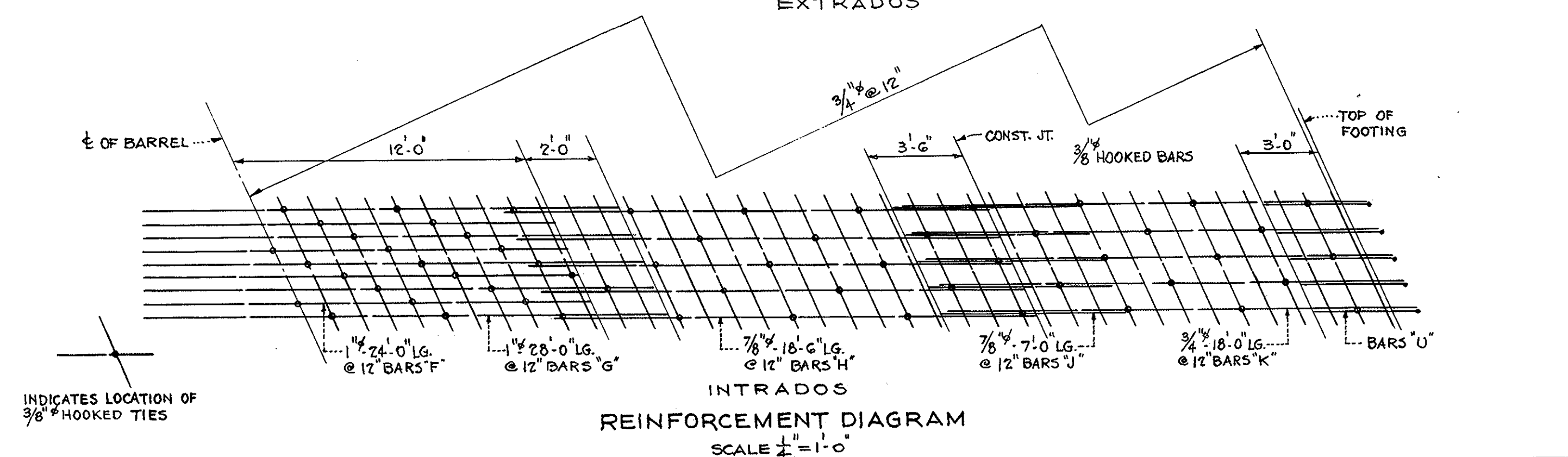
ANCHOR PLATE
SCALE 1" = 1'-0"



DETAILS AT ENDS OF FENCES
SCALE 1" = 1'-0"



SQUARE HALF SECTION
SCALE $\frac{1}{2}'' = 1'-0''$



REINFORCEMENT DIAGRAM
SCALE $\frac{1}{4}'' = 1'-0''$

PUB. RD. DIV. NO.	STATE	FEDERAL AID PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
MASS.	U'272(34)		23	84	

GENERAL NOTES

FOUNDATIONS
FOUNDATIONS MAY BE ALTERED, IF NECESSARY, TO SUIT CONDITIONS ENCOUNTERED IN CONSTRUCTION.

DATE & SEAL
TO BE PLACED ON THE INSIDE OF THE BRIDGE RAILING AT THE NORTHEASTERLY AND SOUTHWESTERLY ENDS. DATE TO BE CUT THROUGH STEEL PLATE WHICH IS TO BE WELDED TO BRIDGE RAILINGS AS SHOWN IN DETAIL ON SHEET N° 4. SEAL WILL BE FURNISHED BY THE COMMONWEALTH AND SHALL BE PLACED BY THE CONTRACTOR.

DESIGN
IN ACCORDANCE WITH THE CURRENT SPECIFICATIONS OF THE AMERICAN ASSOCIATION OF STATE HIGHWAY OFFICIALS FOR H-20-44 LOADING 1957 EDITION.

REINFORCEMENT
ALL BARS SHALL HAVE DEFORMATIONS CONFORMING TO A.S.T.M. DESIGNATION A 305. UNLESS SHOWN ON THE PLANS, REINFORCING BARS SHALL BE LAPPED 20 DIAMETERS TO MAKE A SPLICE, EXCEPT THAT MAIN REINFORCING BARS NEAR THE TOP OF SLABS AND BEAMS HAVING MORE THAN 12 INCHES OF CONCRETE UNDER THE BARS SHALL BE LAPPED 35 DIAMETERS TO MAKE A SPLICE.

DIMENSIONS
ALL DIMENSIONS AND DETAILS SHOWN FOR THE EXISTING STRUCTURE MUST BE CHECKED IN THE FIELD BY THE CONTRACTOR.

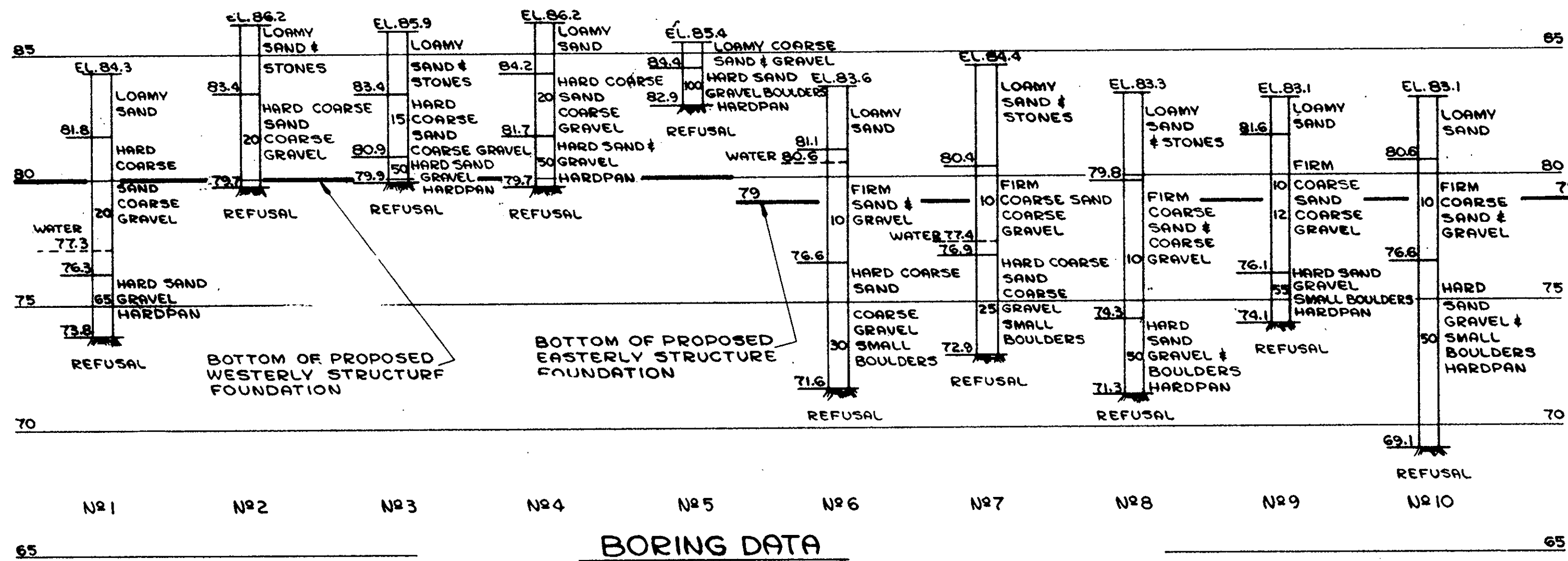
BENCH MARK
B.M. - HIGH PT. TOWN LINE MON. STA. 94+00 - 88' LEFT (IN BAY STATE ROAD) EL. 87.10 SEA LEVEL DATUM 1929.

ESTIMATED QUANTITIES

(NOT GUARANTEED)

BRIDGE EXCAVATION	1430. CY
CLASS "B" ROCK EXCAVATION	10. CY
CONCRETE EXCAVATION	130. CY
REINFORCED CONCRETE EXCAVATION	85. CY
GRAVEL BORROW	1825. CY
BRIDGE STRUCTURE (L-19-11)	1. LS

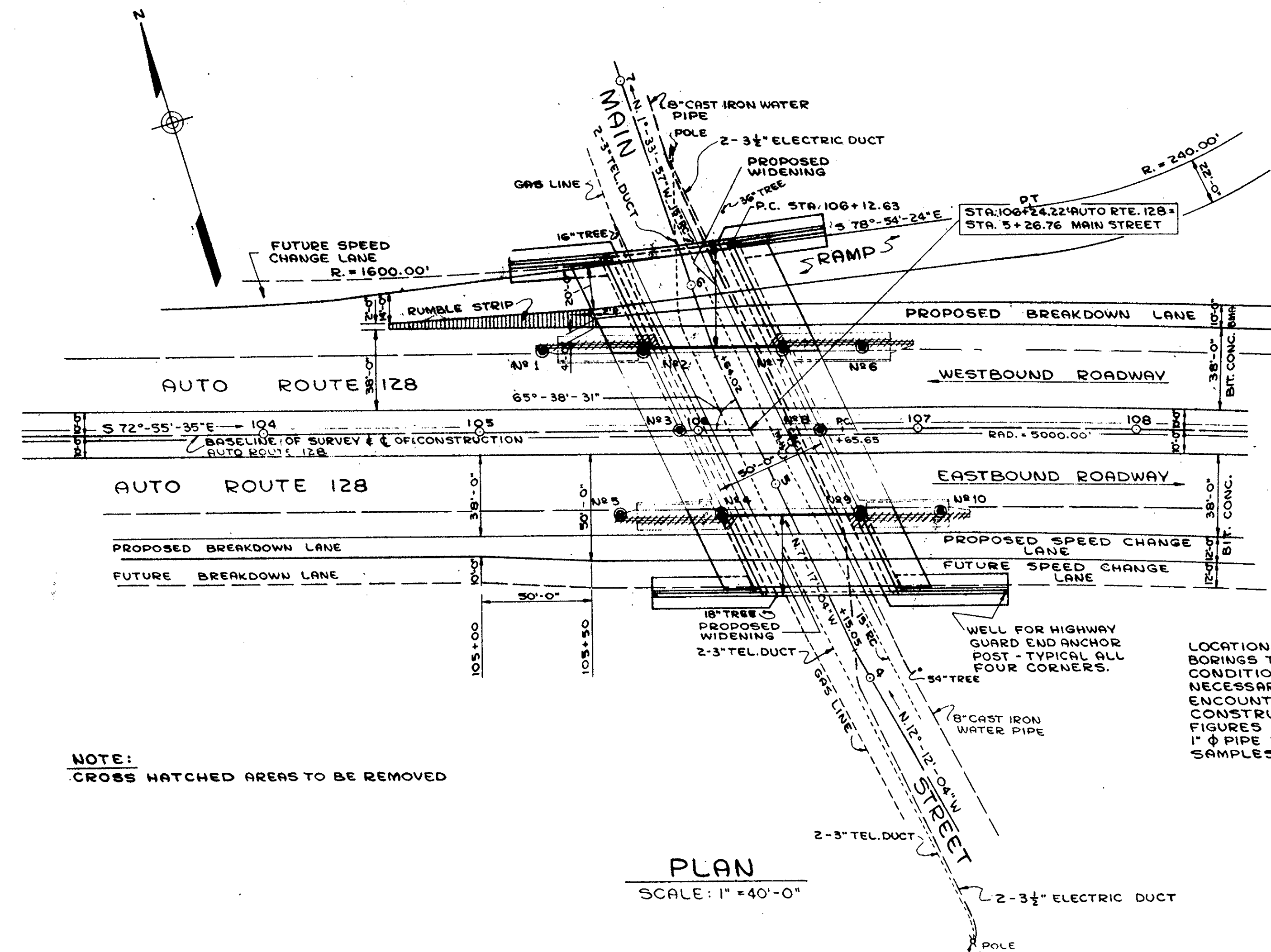
NOTE:
ESTIMATED WEIGHT OF STEEL REINFORCEMENT FOR STRUCTURES 246,000. POUNDS. THIS QUANTITY IS PART OF ITEM G-15-1 BRIDGE STRUCTURE (L-19-11) AND IS NOT GUARANTEED.



BORING DATA
SCALE: 1" = 4'-0"
BORINGS TAKEN MAY 1944

BORING NOTES

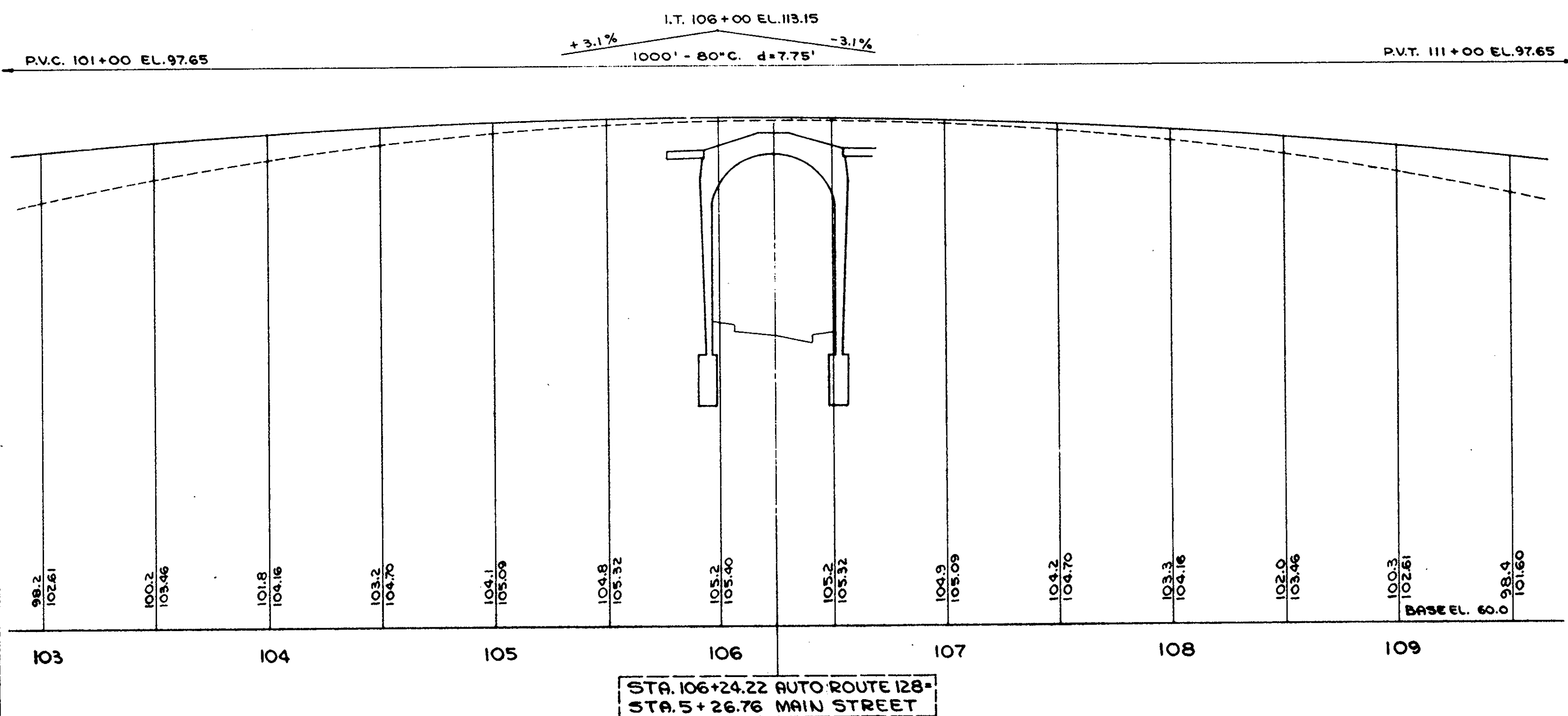
LOCATION OF BORINGS SHOWN ON PLAN THUS: (N°1 BORINGS TAKEN FOR PURPOSE OF DESIGN AND SHOW CONDITIONS AT BORING POINTS ONLY, BUT DO NOT NECESSARILY INDICATE NATURE OF MATERIAL TO BE ENCOUNTERED IN CONNECTION WITH THE CONSTRUCTION OF THE BRIDGE. FIGURES IN COLUMNS INDICATE BLOWS PER FOOT ON 1" Ø PIPE PRODUCED BY 30" DROP OF 140# HAMMER. SAMPLES OF BORINGS ARE UNAVAILABLE.



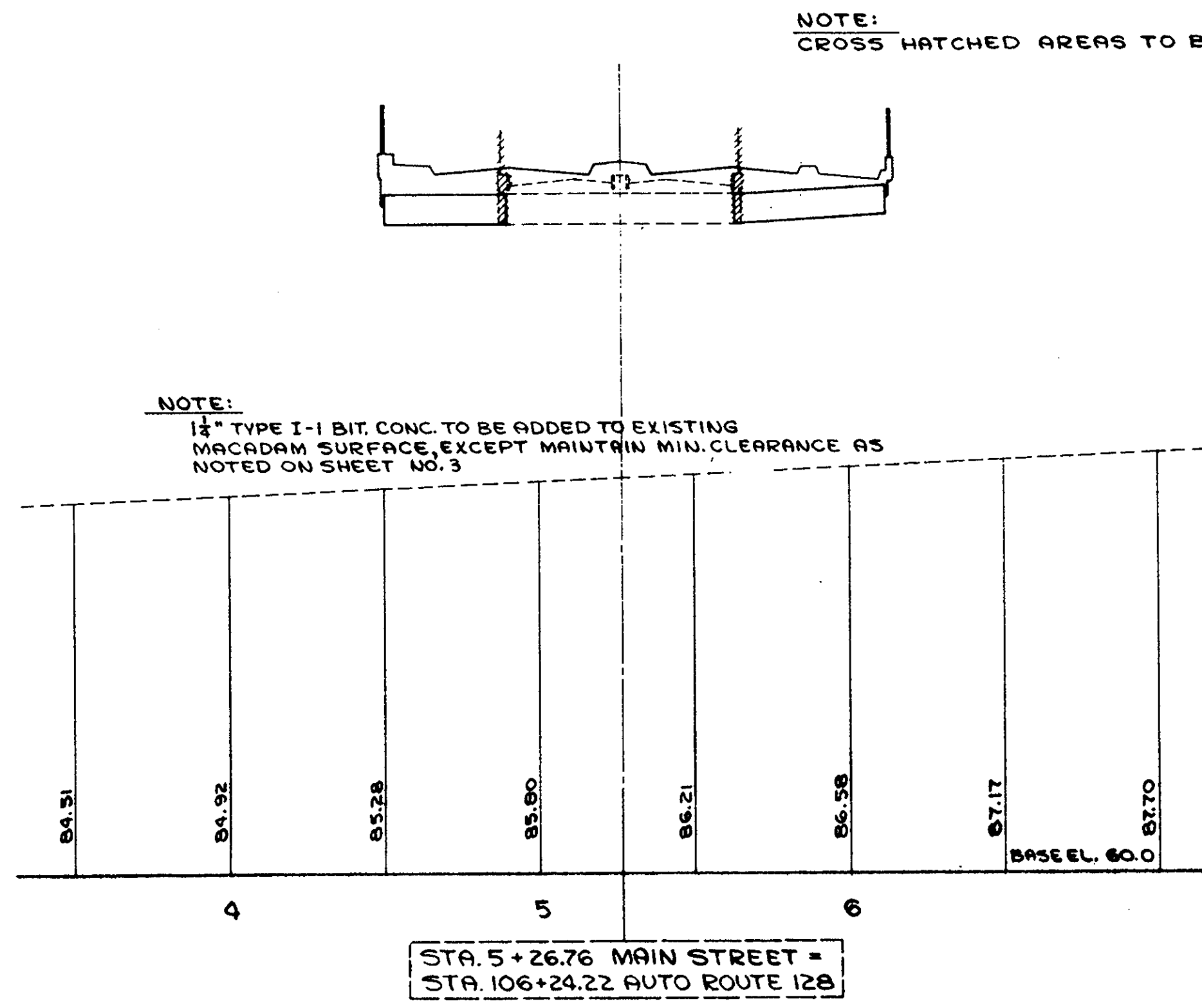
PLAN
SCALE: 1" = 40'-0"

NOTE:
CROSS HATCHED AREAS TO BE REMOVED

NOTE:
CROSS HATCHED AREAS TO BE REMOVED.



PROFILE - AUTO ROUTE 128
HOR. SCALE: 1" = 40'-0" VERT. SCALE: 1" = 8'-0"



PROFILE - MAIN STREET
HOR. SCALE: 1" = 40'-0" VERT. SCALE: 1" = 8'-0"

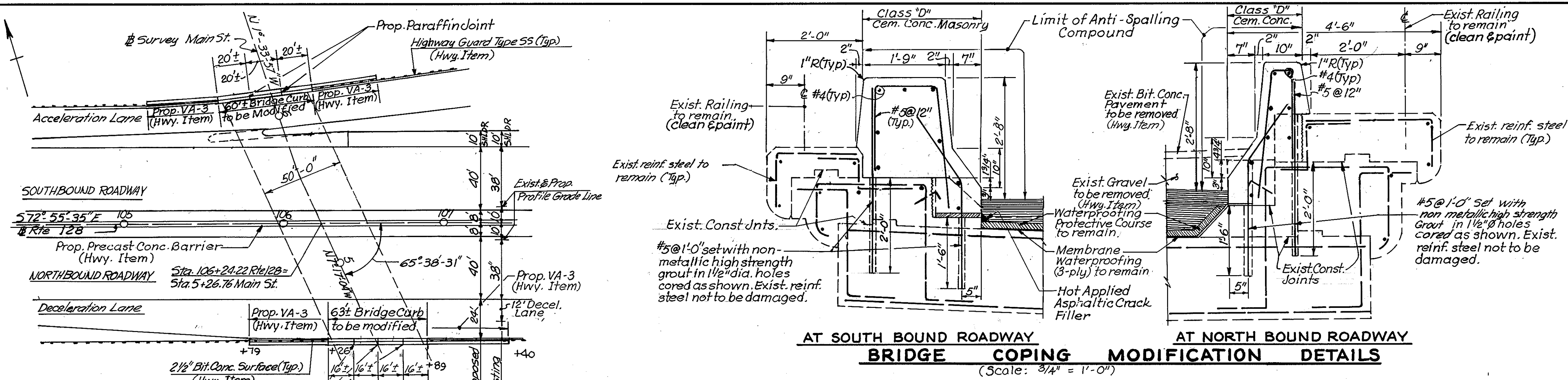
NOTE:
1 1/2" TYPE I-1 BIT. CONC. TO BE ADDED TO EXISTING MACADAM SURFACE, EXCEPT MAINTAIN MIN. CLEARANCE AS NOTED ON SHEET NO. 3

CONSULTING ENGINEER
UTILITY ENGINEERS, INC.
BOSTON, MASS.

FEB. 14, 1959		ISSUED FOR CONSTRUCTION	
THE COMMONWEALTH OF MASSACHUSETTS			
PROPOSED BRIDGE			
W. DENING			
LYNNFIELD			
AUTO ROUTE 128 STA. 106+24.22			
OVER MAIN STREET STA. 5+26.76			
SCALES AS NOTED			
OFFICE OF			
DEPARTMENT OF PUBLIC WORKS			
100 NASHUA ST. - BOSTON, MASS.			
FEBRUARY 1959			
BRIDGE ENGINEER		CHIEF ENGINEER	

GENERAL NOTES

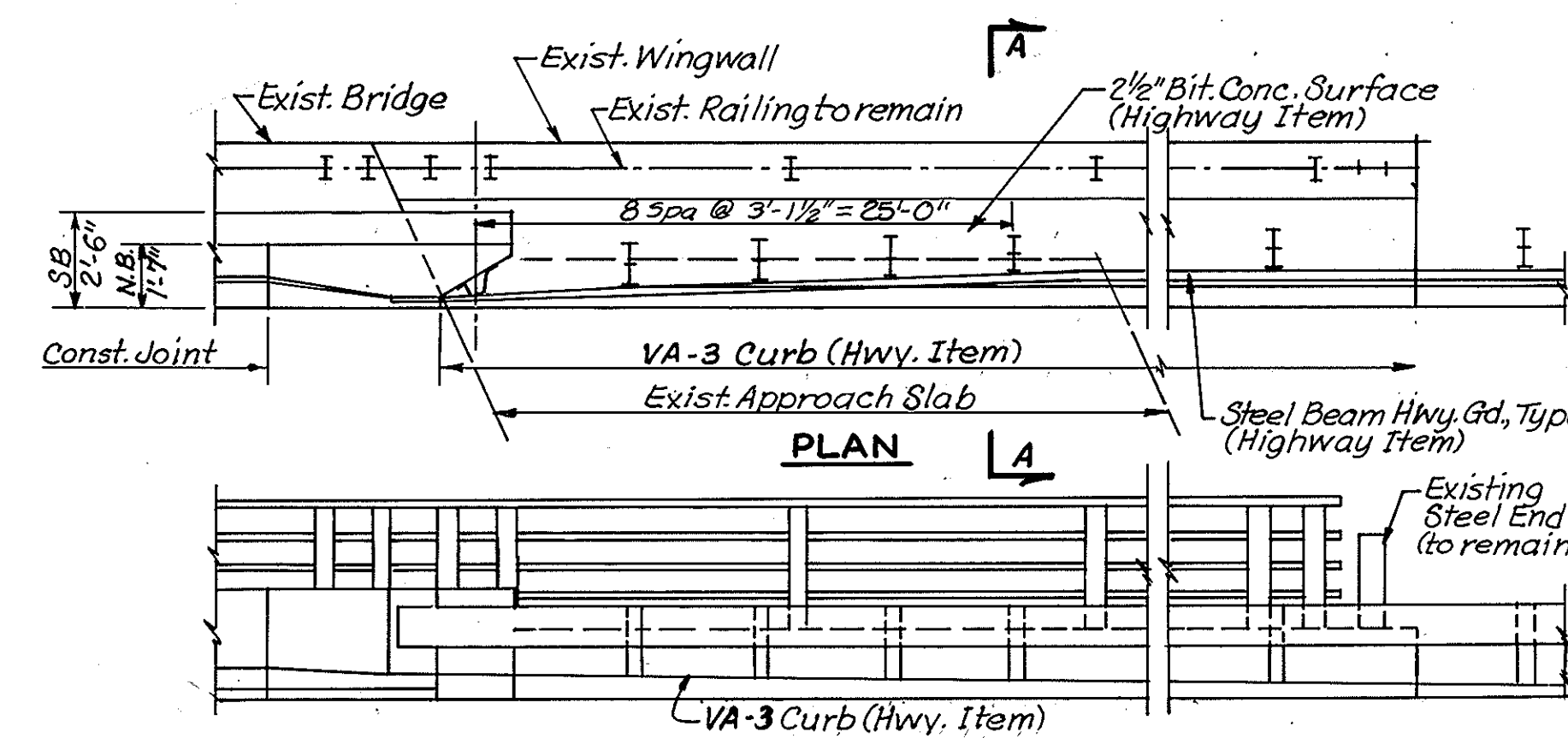
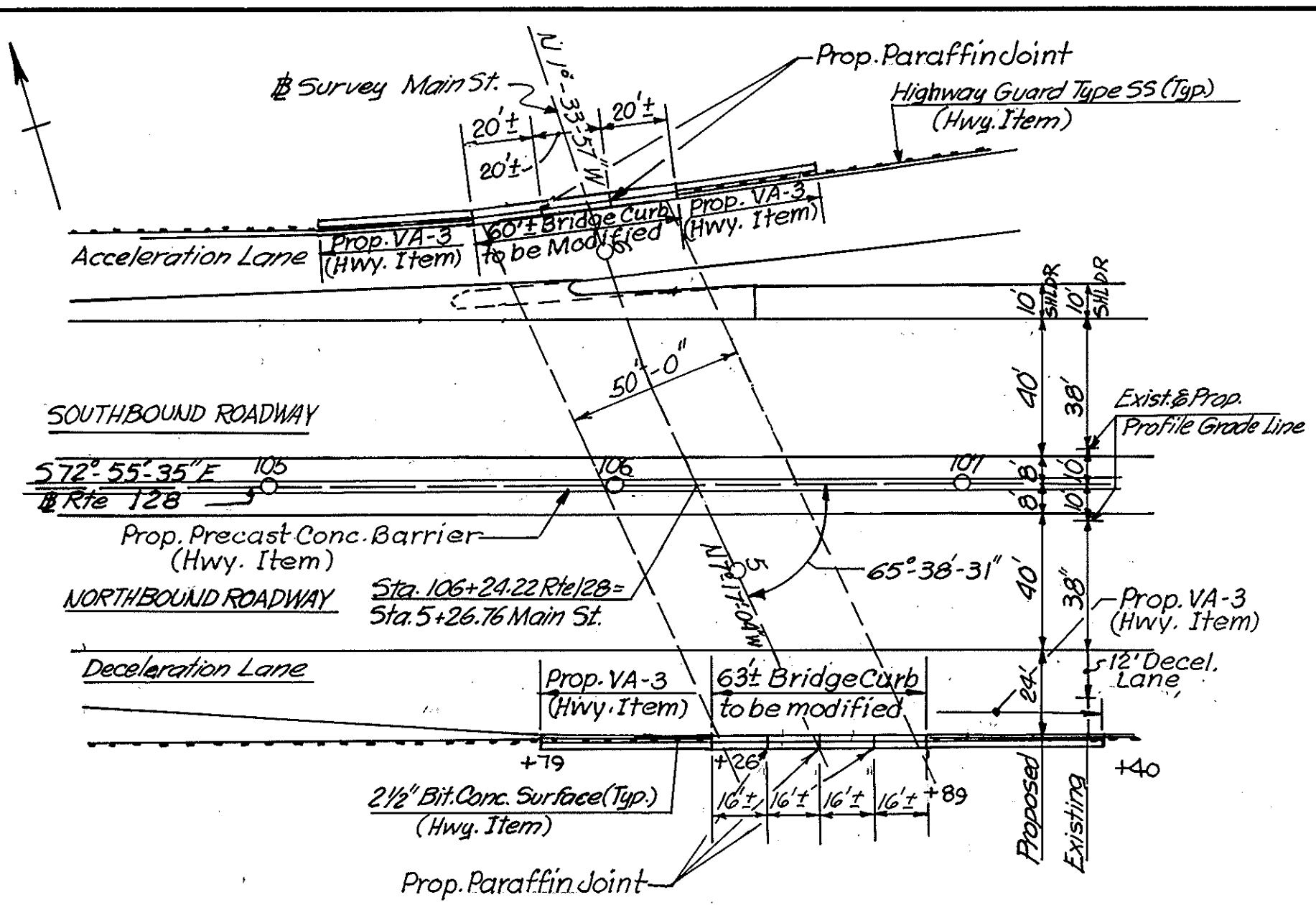
- DESIGN:**
In accordance with A.A.S.H.T.O. Specifications 1977 Edition with 1978 addenda for H20-44 Loading
- BENCH MARK:**
B.M. High Pt. Town Line Mon. Sta 94+00, 88'± Left (in Bay State Road) Elev. 87.10 Sea Level Datum 1929.
- DIMENSIONS:**
All dimensions and details shown for the existing structure shall be checked in the field by the contractor and adjustment shall be made for any discrepancies noted prior to the submission and approval of the shop drawings. For use as a guide, copies of the original bridge construction plans are available at the Mass. D.P.W. Bridge Section, 100 Nashua Street, Boston, Mass.
- ANCHOR BOLTS:**
All anchor bolts are to be set by template and placed before the concrete is poured.
- CHAMFER:**
All exposed corners of new concrete shall be chamfered 3/4" x 3/4", unless otherwise shown.
- REINFORCING:**
All reinforcing steel shall conform to the requirements of ASTM A615 Grade 60. Unless otherwise shown on plans all #4 bars shall be lapped 20" and all #5 bars shall be lapped 26". For horizontal bars with 12" or more of concrete below the bar the lap lengths shall be 29" for #4 bars and 36" for #5 bars. If the above bars are spaced 6" or more on center, the lap length shall be 80% of the lap length given above. All other bars shall be lapped as shown on the plans.
- SCALES:**
Scales noted on plans are not applicable to reduced size prints. Divide by 2 for 1/4 size prints. (11" x 18")
- ANTI-SPALLING COMPOUND:**
As shown on Plans



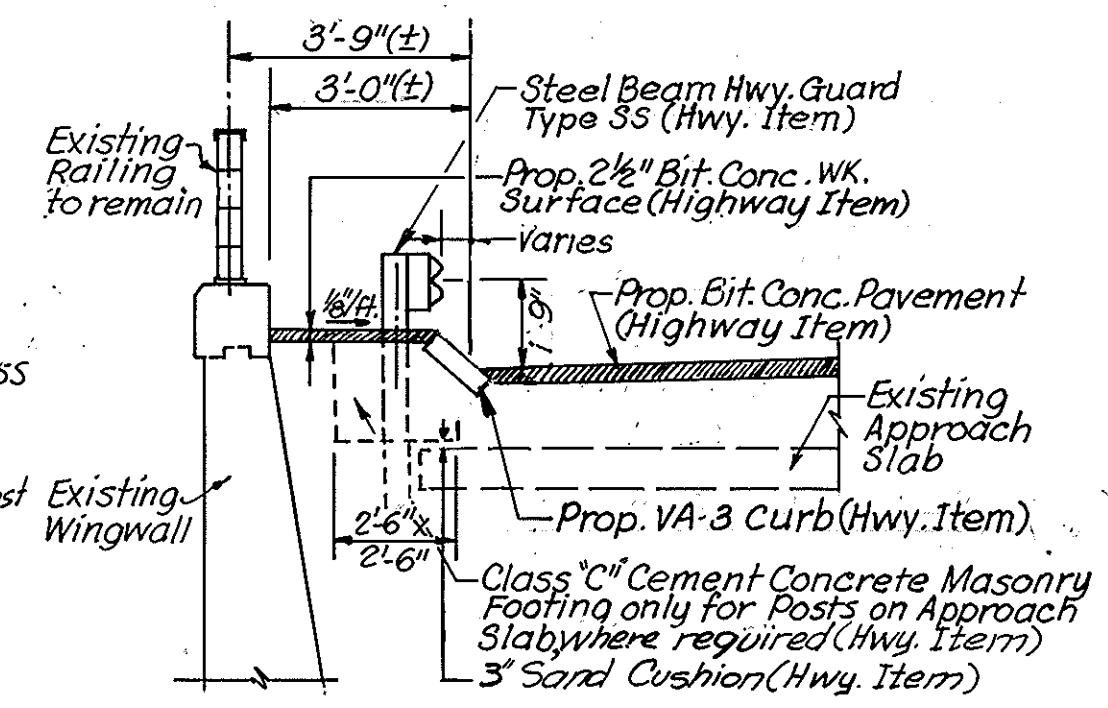
**AT SOUTH BOUND ROADWAY
BRIDGE COPING MODIFICATION DETAILS**
(Scale: 3/4" = 1'-0")

- GENERAL NOTES:**
1. New Concrete is to be bonded to all existing concrete surfaces with Epoxy Bonding Compound unless otherwise noted.
 2. All coring shall be done with rotary drills. No percussion drilling will be allowed.

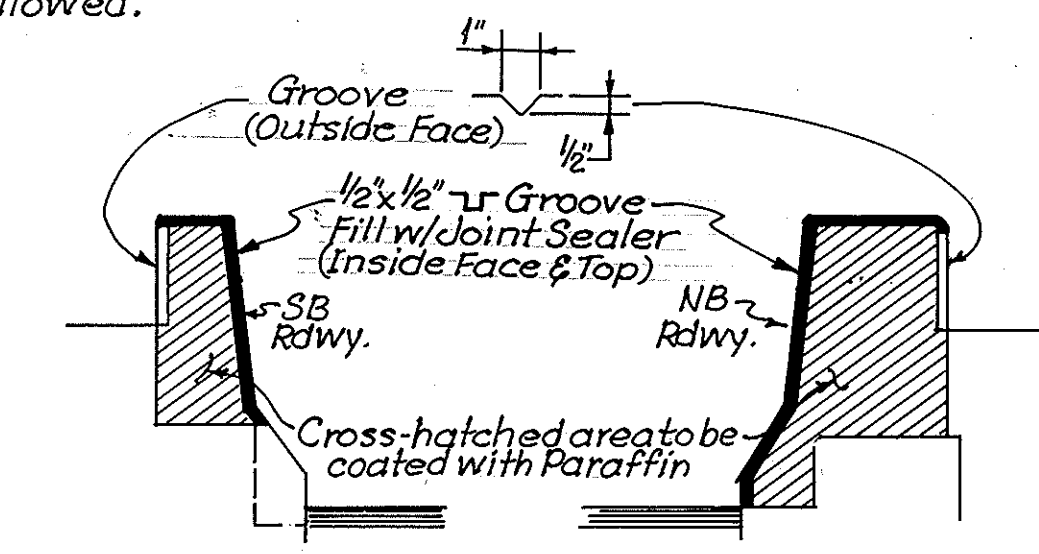
KEY PLAN
(Scale: 1" = 40')



**ELEVATION
STEEL BEAM HIGHWAY GUARD TYPE SS @ ABUTMENT WINGWALLS**
(Scale: 1/4" = 1'-0")



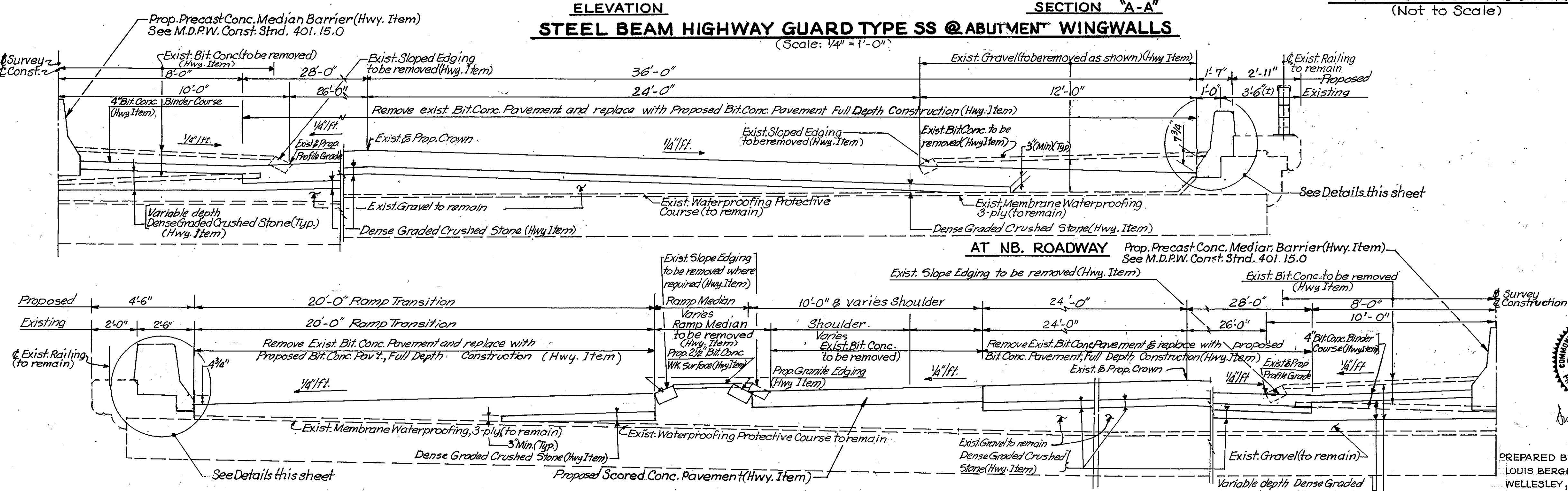
SECTION "A-A"



- Notes:**
1. All concrete construction shall be poured in alternate sections & shall have a curing period of not less than 3 days between pours.
 2. End of bars shall be 2" clear of the paraffin joint.
 3. Do not carry reinforcing steel through the paraffin joint.
 4. Joint to be square to the face of curb or edging.
 5. Joint Sealer to be same color as concrete.

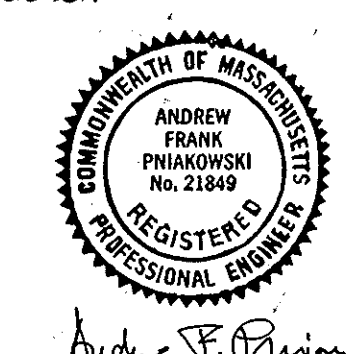
PARAFFIN JOINT DETAIL
(Not to Scale)

SUMMARY OF BRIDGE QUANTITIES		
DESCRIPTION	QTY	UNIT
REINFORCED CONCRETE EXCAVATION	2	CY
CURB REMOVED AND STACKED	130	LF
EDGING REMOVED AND STACKED	60	LF
CLASS D CEM. CONC. MASONRY	21	C.Y.
STEEL REINF. FOR STRUCTURES	1700	L.B.
DRILLING DOWEL HOLES	440	L.F.
LINSEED ANTI-SPALLING COMPOUND	60	S.Y.
EPOXY BONDING COMPOUND	490	SF
METAL BRIDGE RAILING - CLEAN & PAINT	275	L.F.



TYPICAL SQUARE DECK SECTION
(Scale: 3/8" = 1'-0")

Note: All excavation and back fill are highway items, except as noted



PREPARED BY:
LOUIS BERGER & ASSOCIATES, INC.
WELLESLEY, MASS.

OCT. 13, 1979 ISSUED FOR CONSTRUCTION

THE COMMONWEALTH OF MASSACHUSETTS

PROPOSED BRIDGE MODIFICATIONS

LYNNFIELD

ROUTE 128 OVER MAIN STREET

SCALES AS NOTED

OFFICE OF

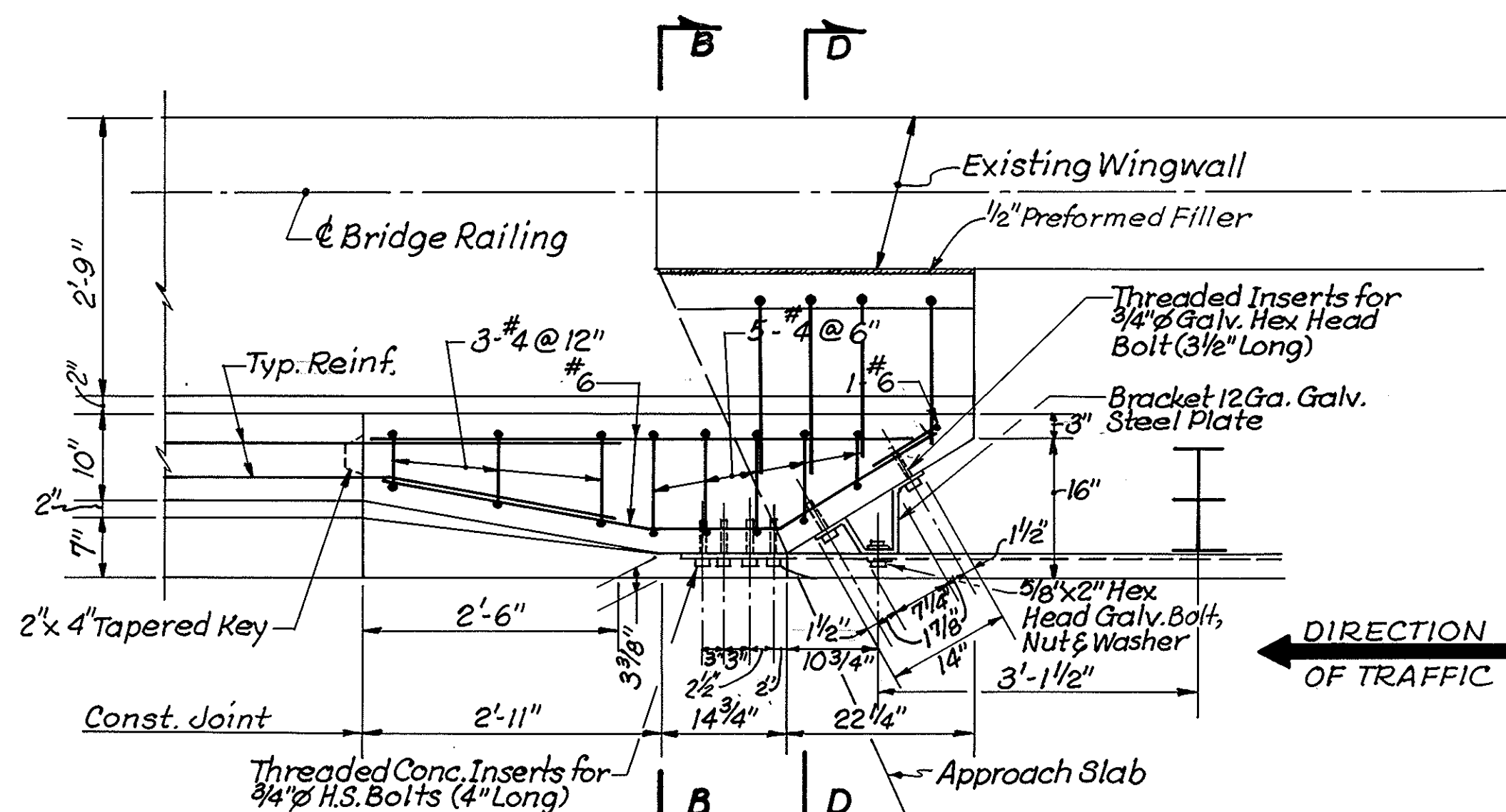
DEPARTMENT OF PUBLIC WORKS

100 NASHUA ST., BOSTON, MASS.

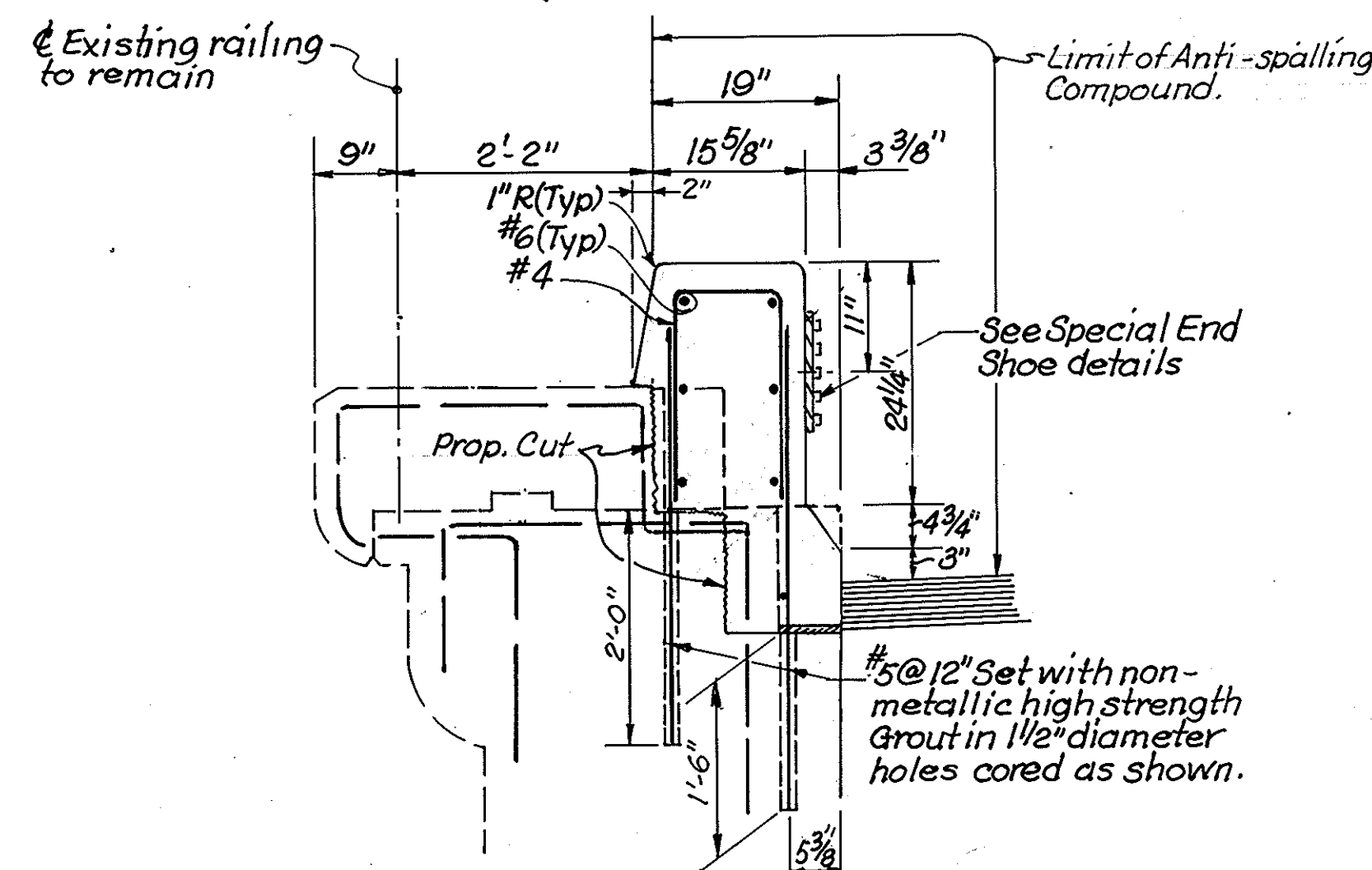
BRIDGE ENGINEER: *L. J. Chene* P.E.

CHIEF ENGINEER: *Justin L. Pella* P.E.

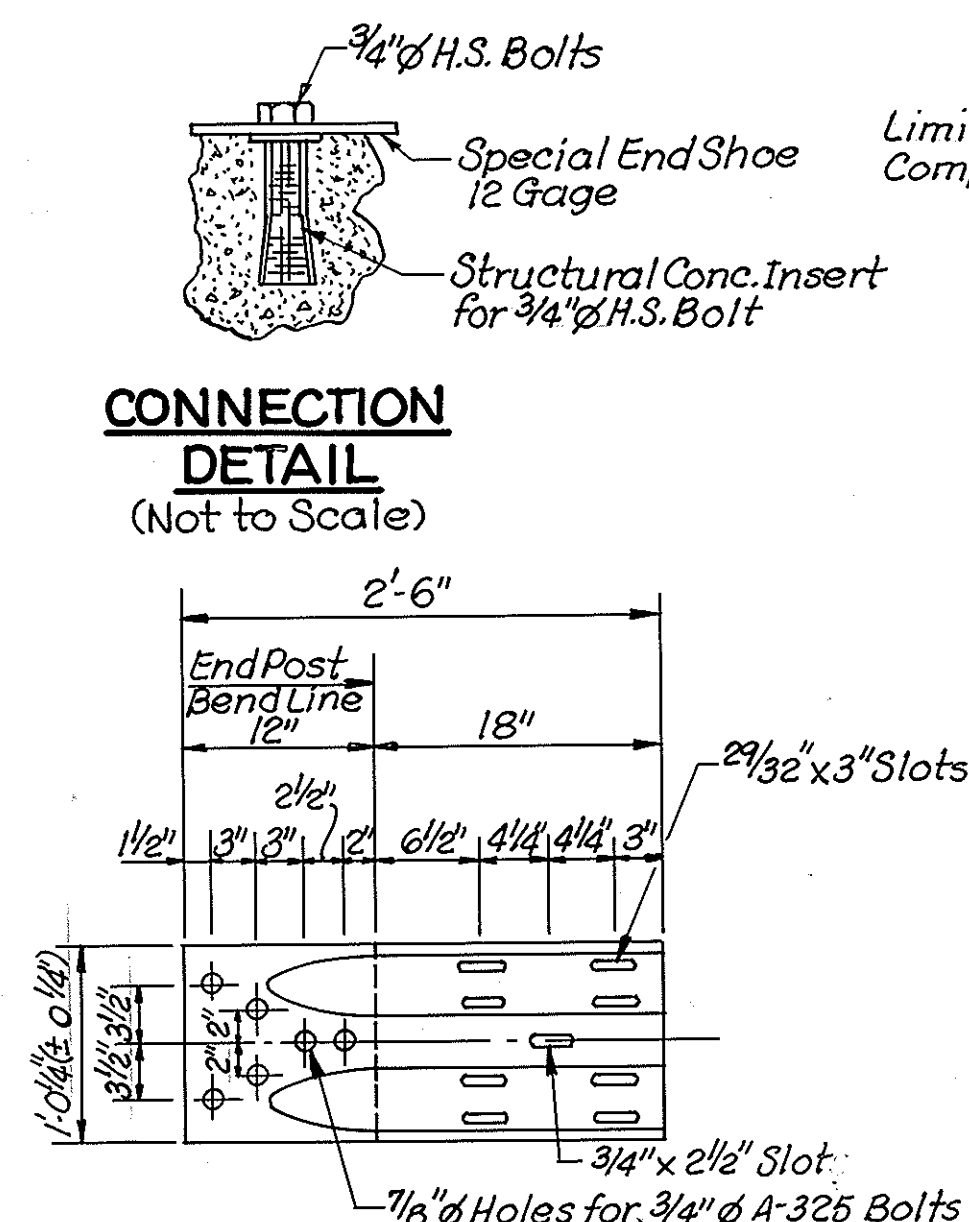
LYNNFIELD					
NORTHERN CIRCUMFERENTIAL HIGHWAY					
PUR. RD. DIV. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	MASS.	FJ-95-2(061)53		191	408



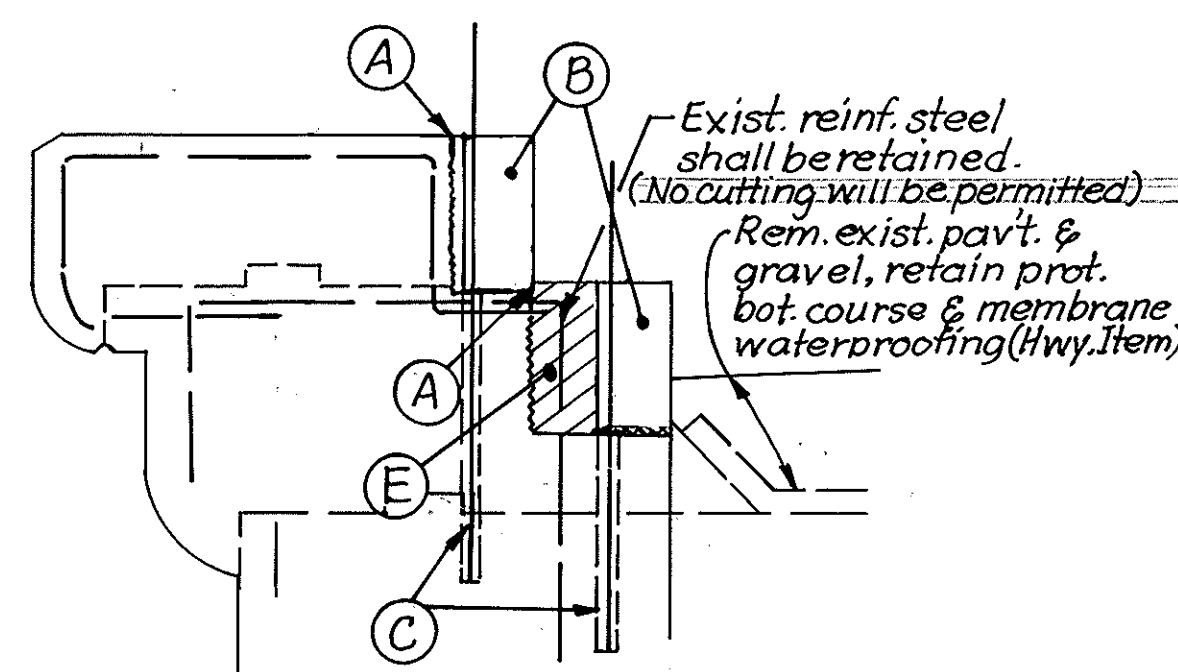
END POST DETAILS @ N.B. ROADWAY
(Scale: 3/4" = 1'-0")



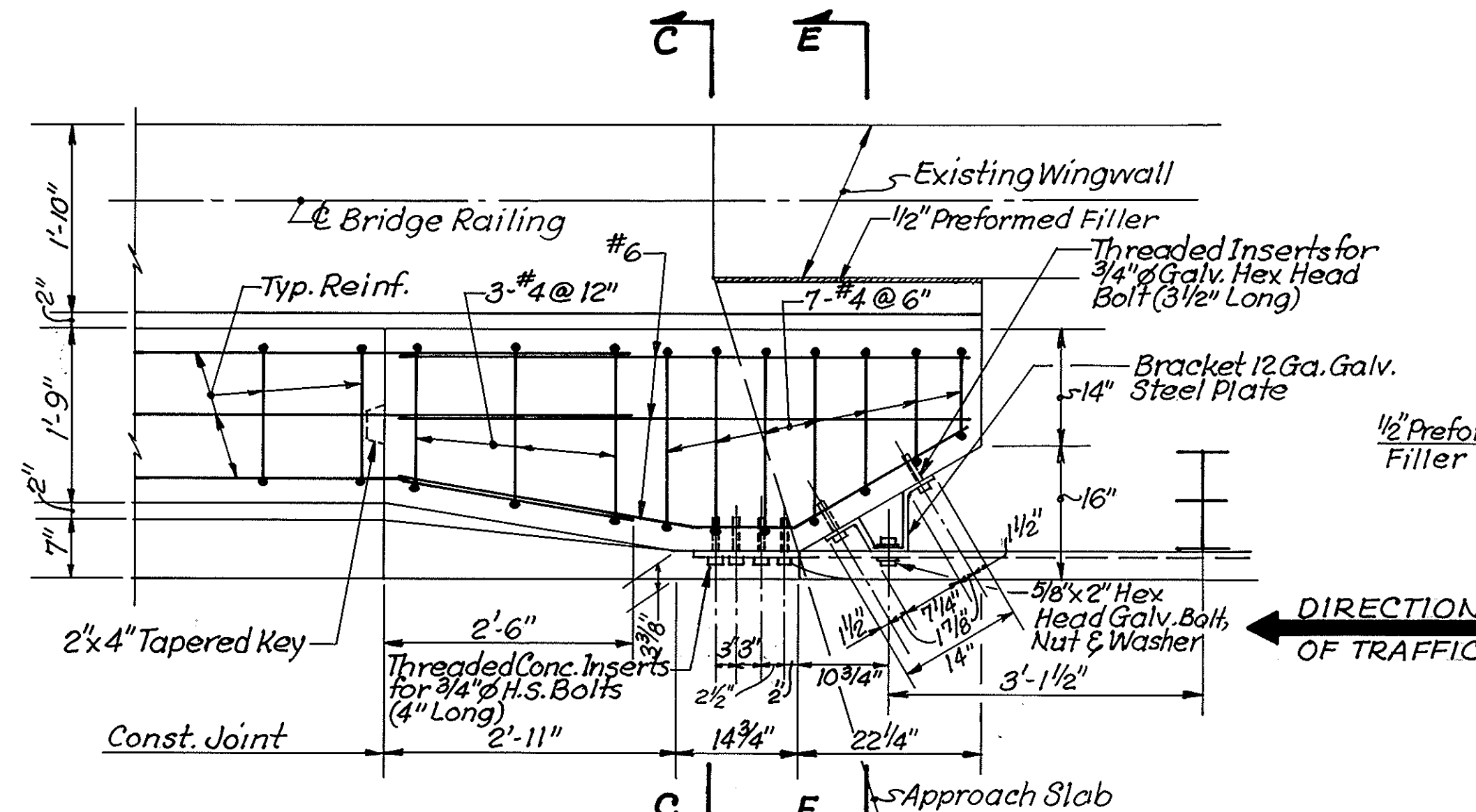
SECTION "B-B"
(Scale: 3/4" = 1'-0")



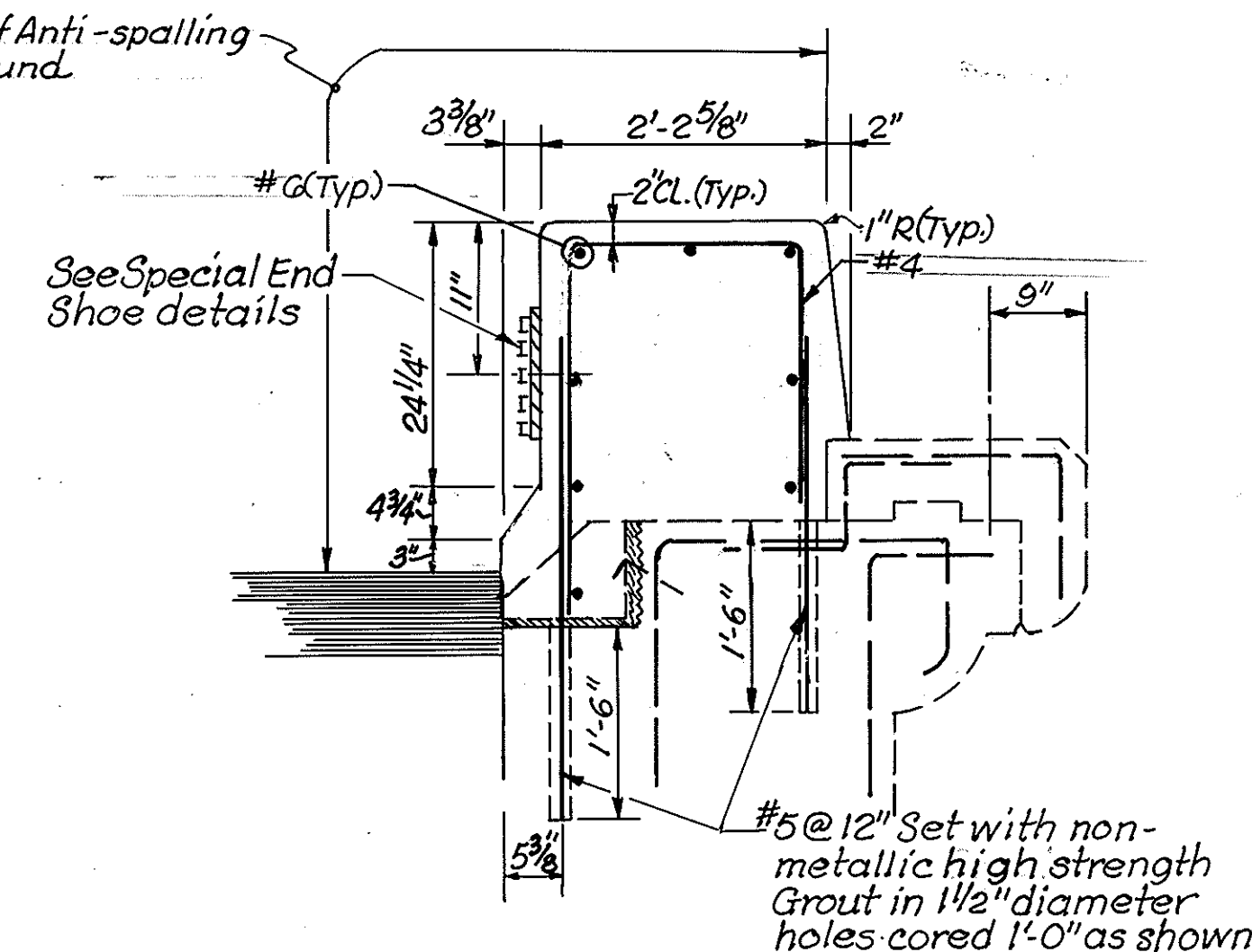
SPECIAL END SHOE DETAILS
(Scale: 1" = 1'-0")



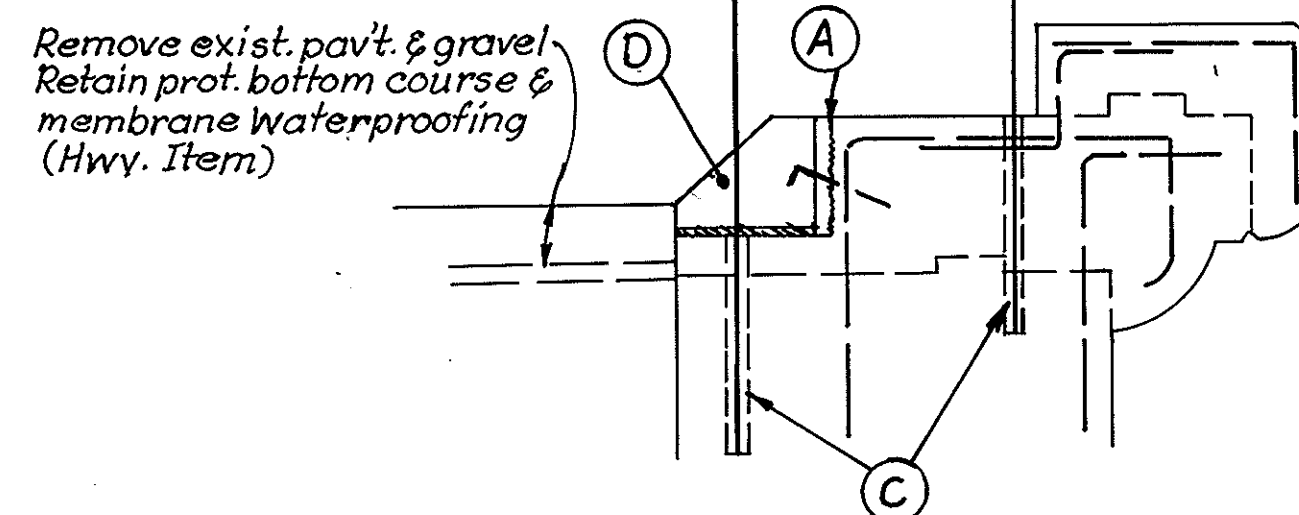
AT NORTHBOUND RDWY.



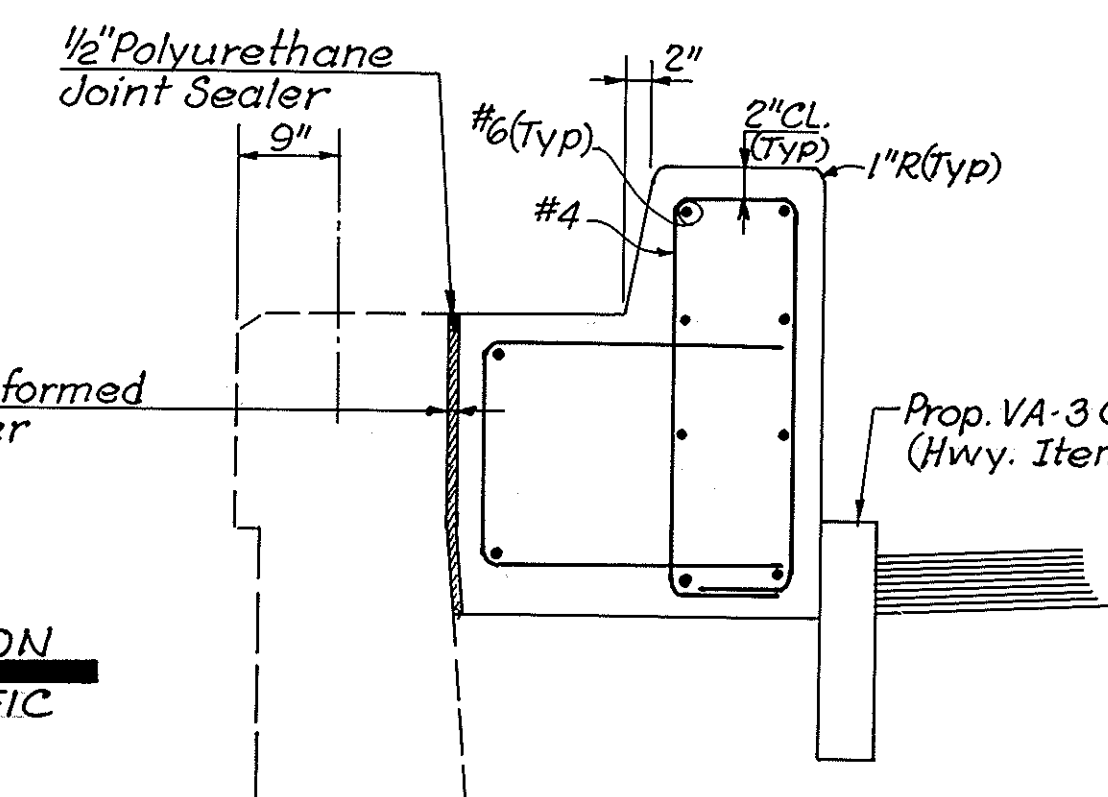
END POST DETAILS @ S.B. ROADWAY
(Scale: 3/4" = 1'-0")



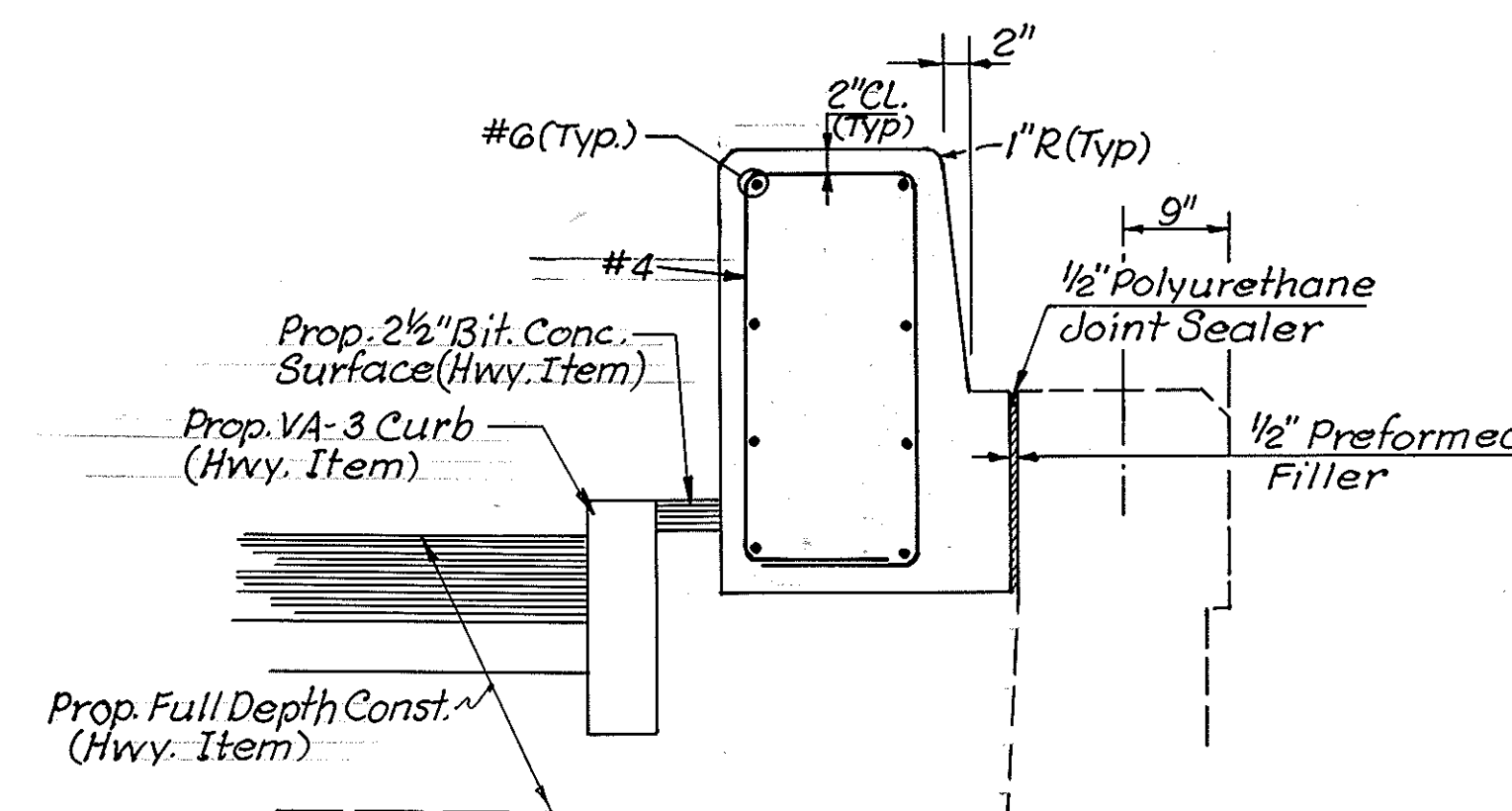
SECTION "C-C"
(Scale: 3/4" = 1'-0")



AT SOUTHBOUND RDWY.



SECTION "D-D"
(Scale: 3/4" = 1'-0")



SECTION "E-E"
(Scale: 3/4" = 1'-0")

SEQUENCE OF CONSTRUCTION OPERATIONS
(Scale: 3/4" = 1'-0")

OCT 13 1979	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION
	USE ONLY PRINTS OF LATEST DATE

PUB. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	MASS.	272(7)	194	41	123

GENERAL NOTES

FOUNDATIONS:-
MAY BE CHANGED, IF NECESSARY, TO SUIT CONDITIONS OF CONSTRUCTION.

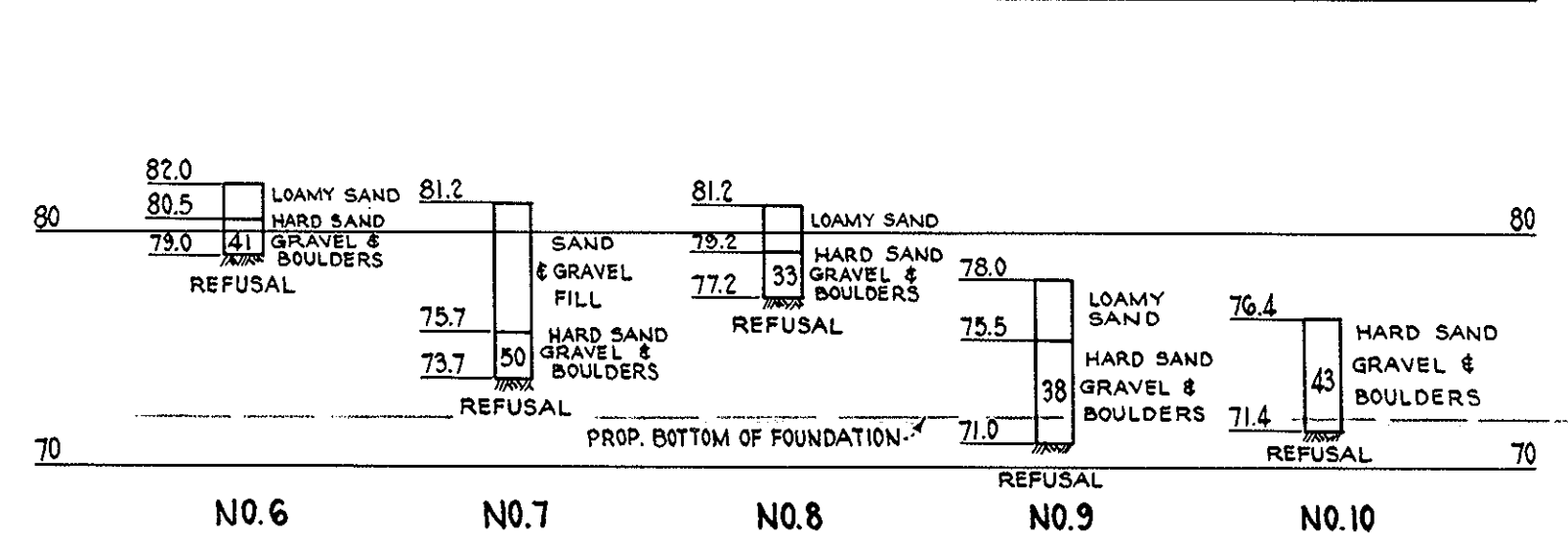
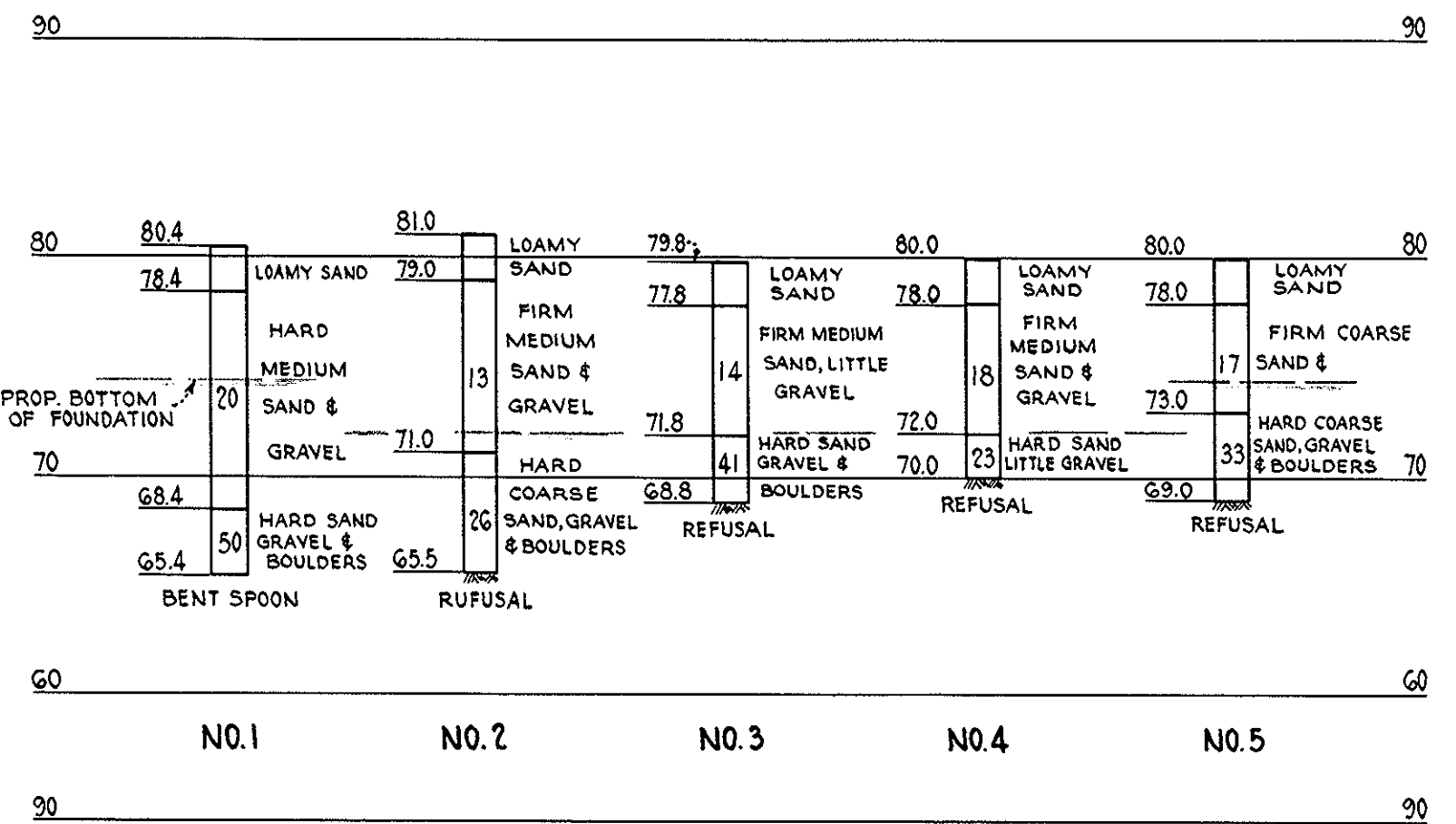
DATE & SEAL:-
TO BE LOCATED ON INSIDE FACE AT SOUTHWESTERLY AND NORTHEASTERLY ENDS OF FENCE. FOR ARRANGEMENTS SEE SHEET . FOR SIZE AND CHARACTER OF NUMERALS SEE DETAILS ON ANOTHER SHEET.

DESIGN:-
ACCORDING TO SPECIFICATIONS OF THE AMERICAN ASSOCIATION OF STATE HIGHWAY OFFICIALS (1941 EDITION), FOR H20 LOADING.

BENCH MARK:-
STA. 193+73.100' LT. SPIKE 14" PINE - EL. = 100.75. SEA LEVEL DATUM OF 1929.

ESTIMATED QUANTITIES (NOT GUARANTEED)

1-3-1	BRIDGE EXCAVATION	1265	CU.YDS.
1-3-2	CLASS B ROCK EXCAVATION	50	CU.YDS.
1-3-3	GRAVEL BORROW	1780	CU.YDS.
1-3-4	STRIPPING GRAVEL PITS	180	CU.YDS.
1-3-5	1-CM. CONC. MASONRY - CLASS A	890	CU.YDS.
1-3-6	2-CM. CONC. MASONRY - CLASS B	1120	CU.YDS.
1-3-7	STEEL REINF. FOR STRUCTURES	156000	POUNDS
1-3-8	MEMBRANE WATERPROOFING	665	SQ. YDS.
1-3-9	BITUMINOUS DAMP-PROOFING	475	SQ. YDS.
1-3-10	METAL BRIDGE RAILINGS - TYPE A	130	LIN. FT.
1-3-11	SPLIT GRAY GRANITE CAPSTONE 22"x6"	190	LIN. FT.
1-3-12	SPLIT GRAY GRANITE COPING 18"x12"	130	LIN. FT.
1-3-13	SPLIT GRAY GRANITE BELT COURSE	65	LIN. FT.
1-3-14	SPLIT GRAY GRANITE RING STONE	450	SQ. FT.
1-3-15	STONE FACING	4250	SQ. FT.
1-3-16	GRANITE CURB TYPE VA (6"x12") STR.	130	LIN. FT.
1-3-17	HIGHWAY GUARD BRIDGE ANCHORS (C35)	4	EACH
1-3-18	WATERPROOFING PROTECTIVE COURSE	570	SQ. YDS.

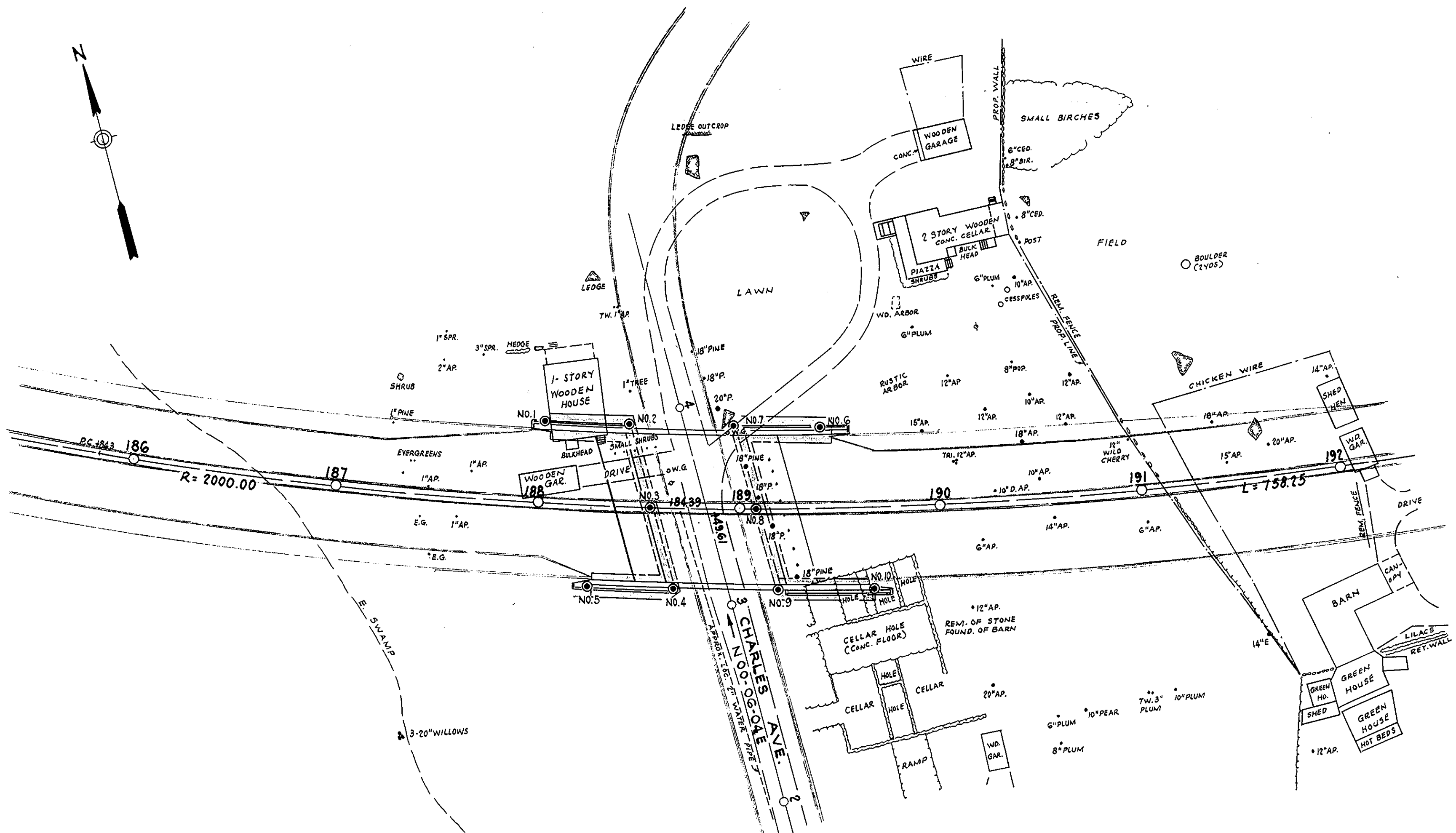


BORING DATA

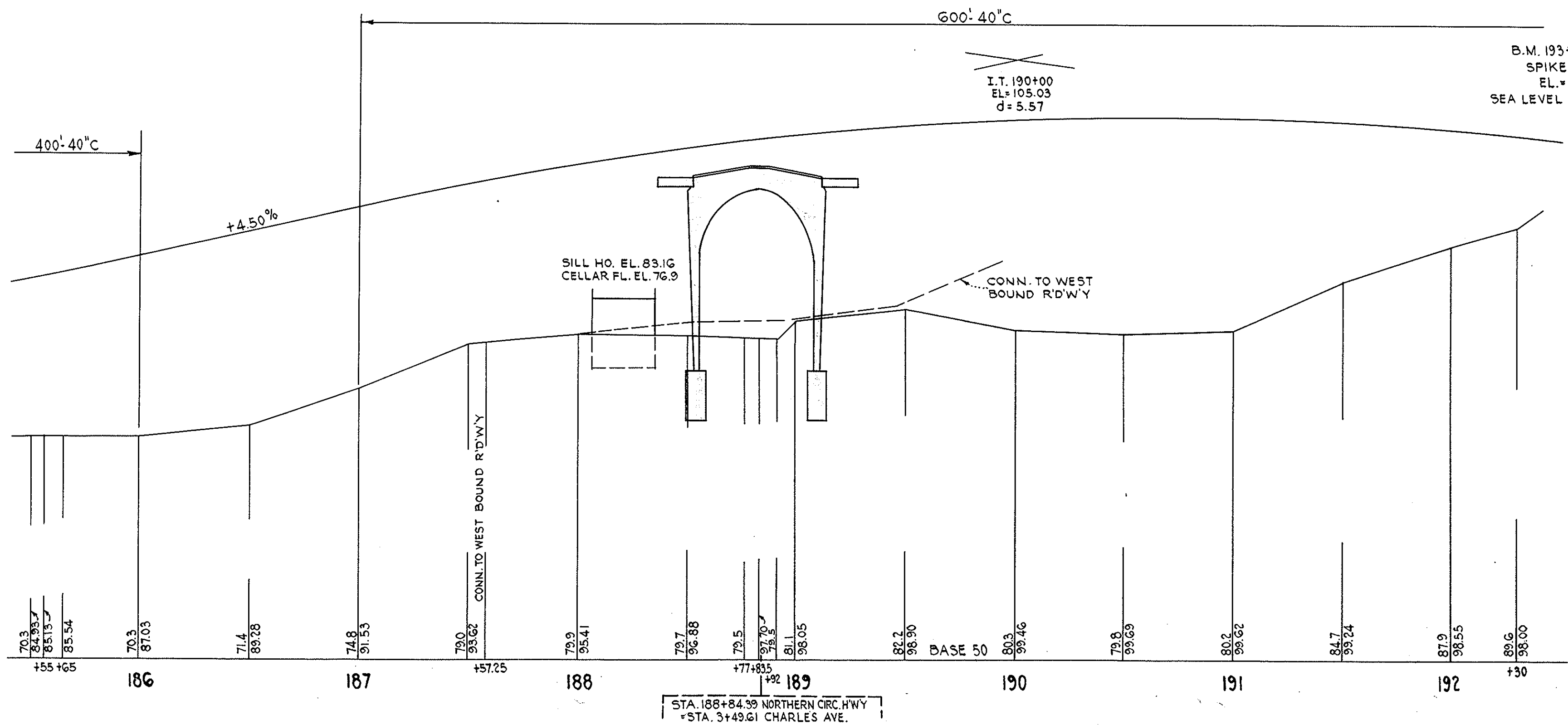
SCALE 1" = 8'-0"
BORINGS TAKEN NOV. 1944

BORING NOTES

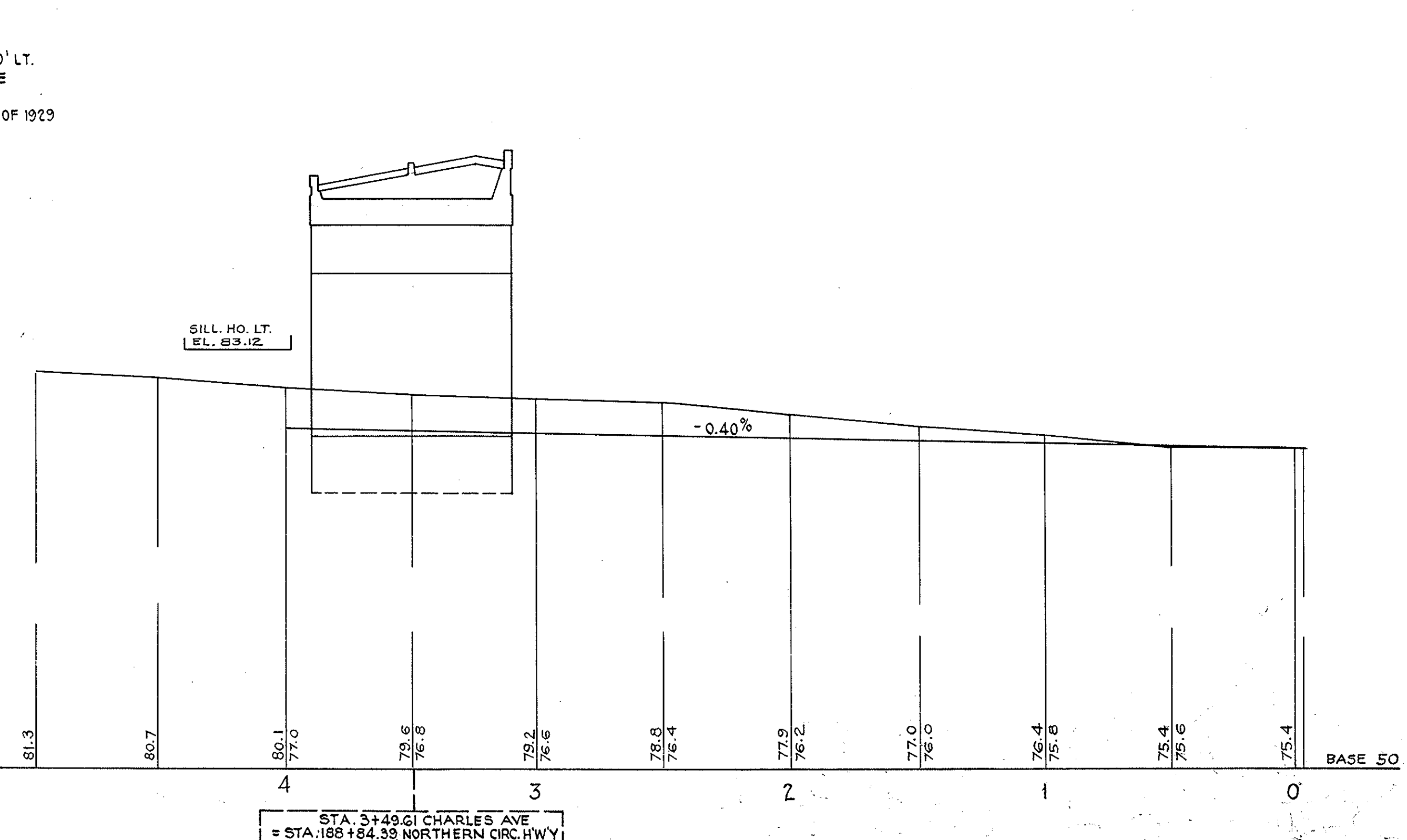
LOCATION OF BORINGS SHOWN ON KEY PLAN THUS @ NO. 1. BORINGS TAKEN FOR PURPOSE OF DESIGN AND SHOW CONDITIONS AT BORING POINTS ONLY, BUT DO NOT NECESSARILY SHOW NATURE OF MATERIAL TO BE ENCOUNTERED IN CONNECTION WITH THE CONSTRUCTION OF THE BRIDGE. FIGURES IN COLUMNS INDICATE BLOWS PER FOOT ON A 1" PIPE PRODUCED BY A 2'-6" DROP OF A 140# HAMMER. SAMPLES FROM TEST BORINGS ARE AVAILABLE AND MAY BE SEEN AT THE OFFICE OF THE BRIDGE ENGINEER, MR. R.O. SPOFFORD, ROOM 609.



PLAN
SCALE 1" = 40'-0"

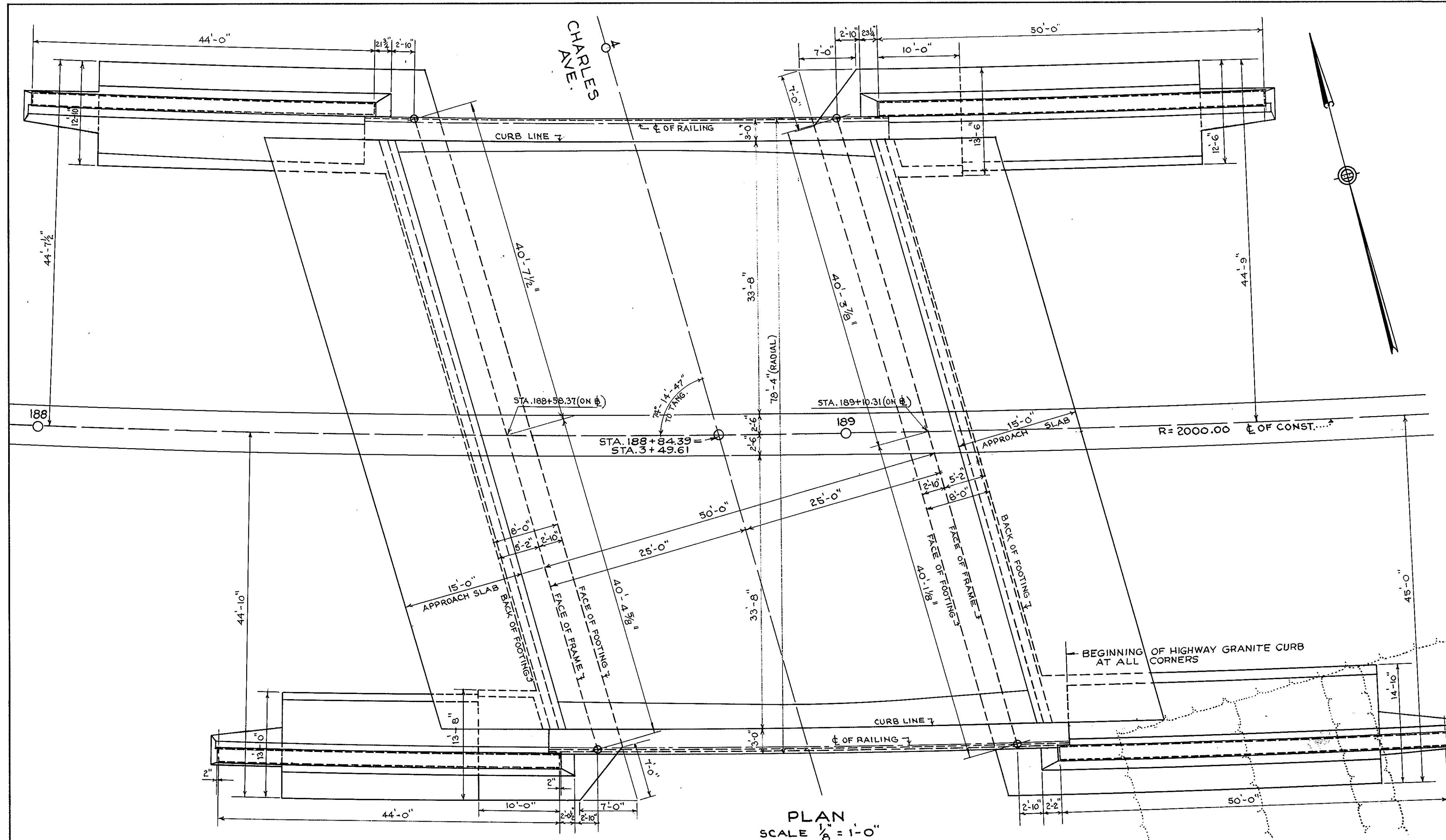


PROFILE
HORZ. SCALE 1" = 40'-0"; VERT. SCALE 1" = 8'-0"

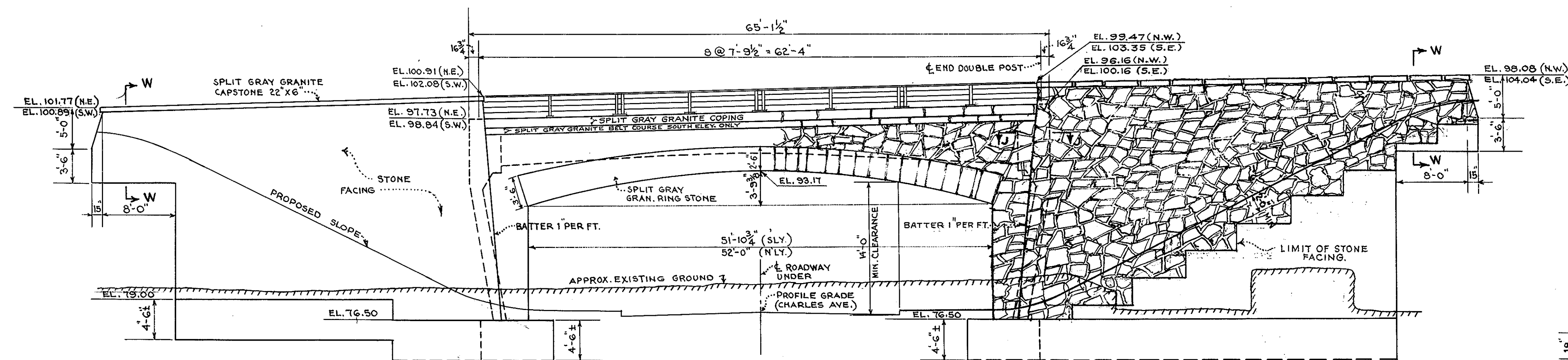


PROFILE OF CHARLES AVE.
HORZ. SCALE 1" = 40'-0"; VERT. SCALE 1" = 8'-0"

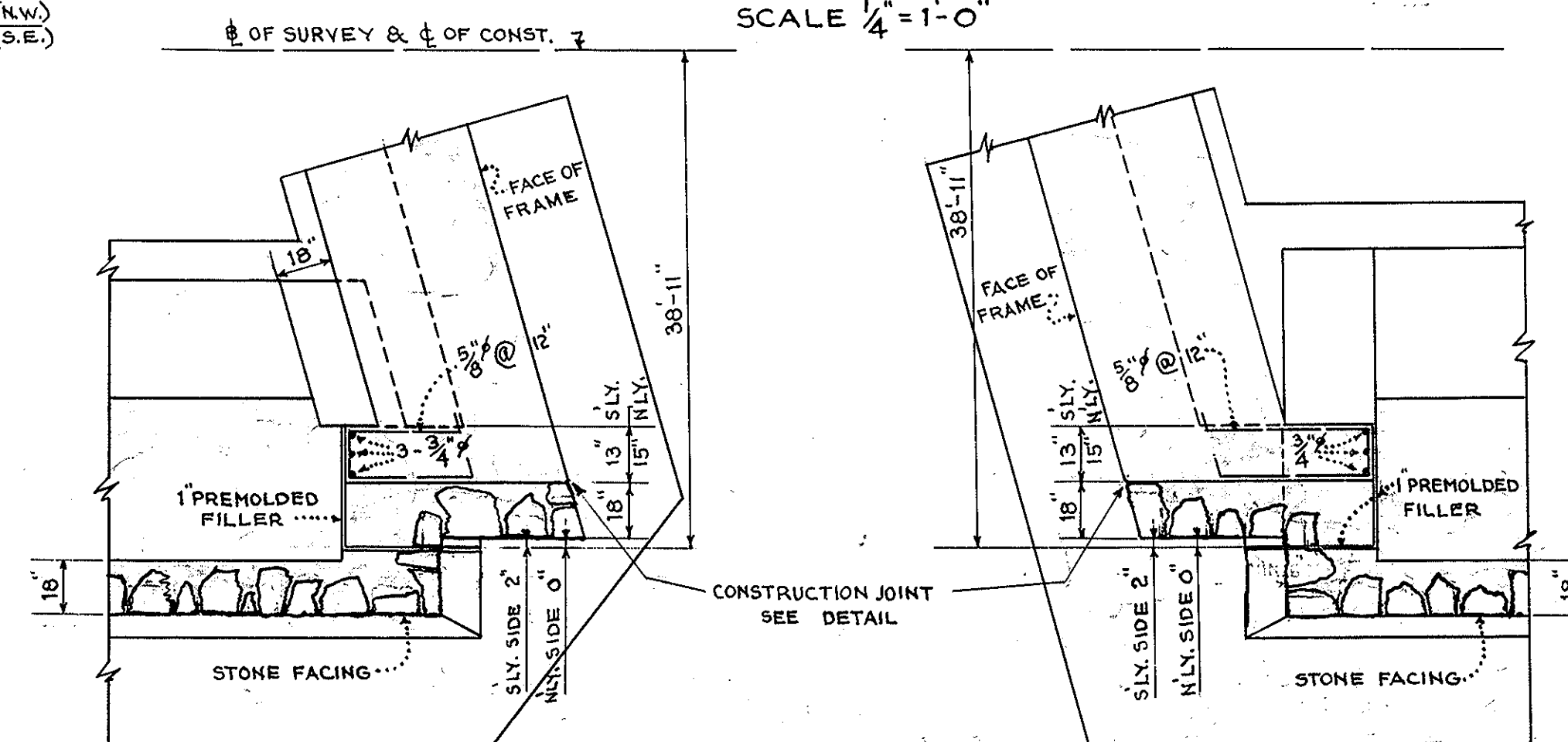
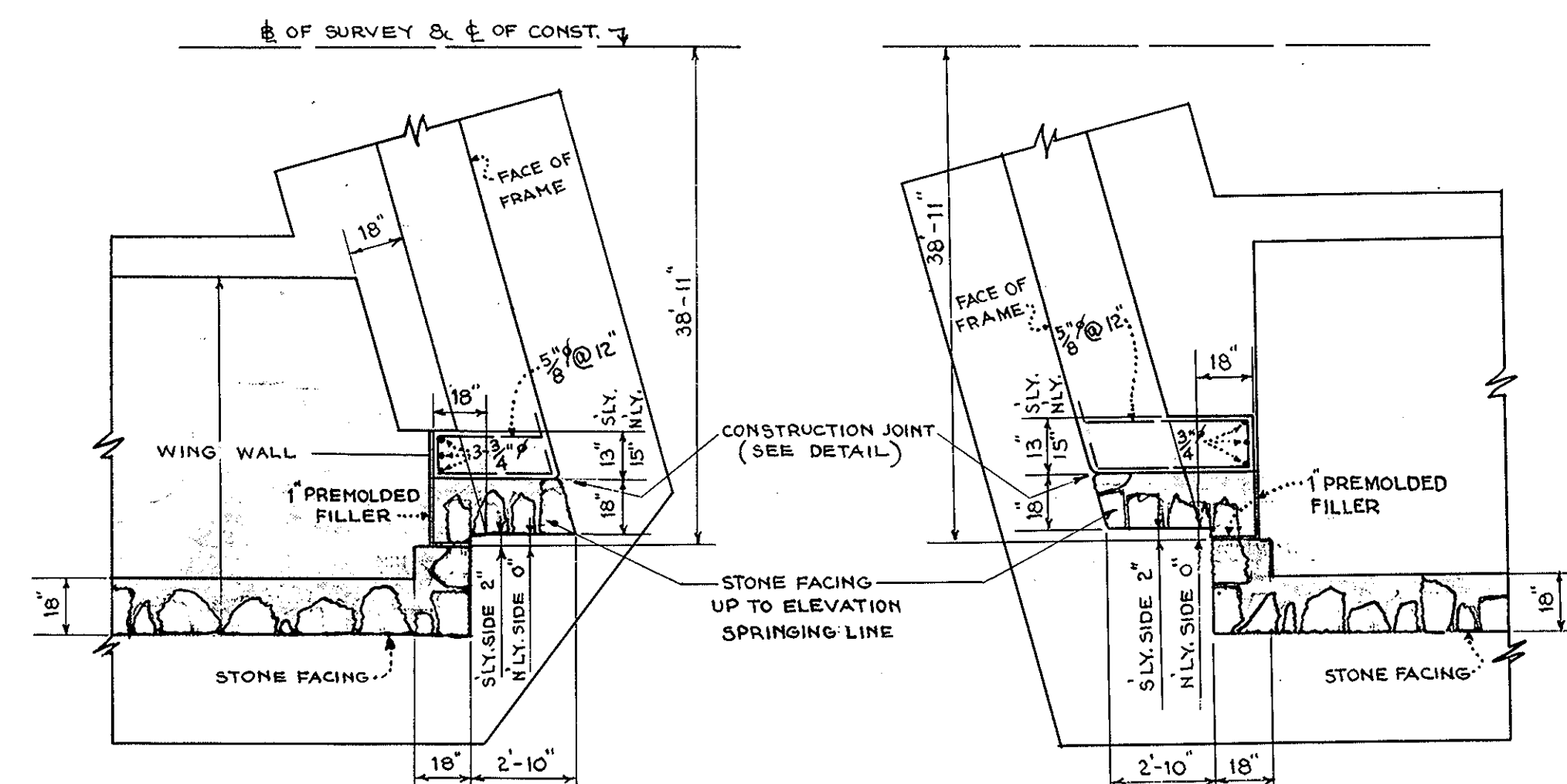
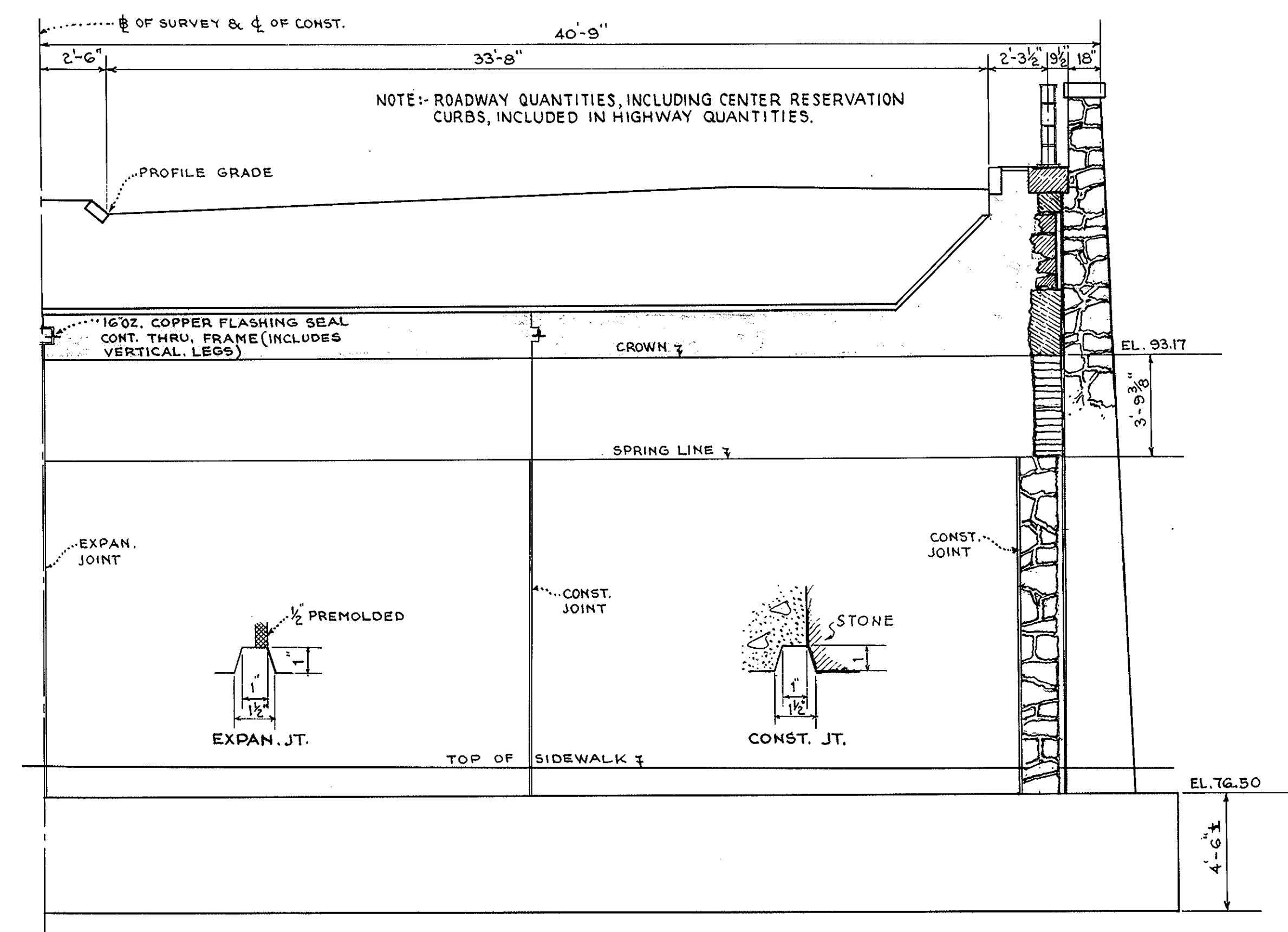
DATE	SHEET NOS.	DESCRIPTION
LIST OF REVISIONS - USE ONLY PRINTS OF LATEST DATE		
THE COMMONWEALTH OF MASSACHUSETTS PROPOSED BRIDGE WAKEFIELD NORTHERN CIRCUMFERENTIAL HIGHWAY STA. 188+84.39 OVER CHARLES AVE. SCALES AS NOTED OFFICE OF DEPARTMENT OF PUBLIC WORKS 100 NASHUA ST. - BOSTON, MASS. APRIL 1948		
DESIGNED BY W.A.H.		TRACED BY M.R.B. J.L.M.
CHECKED BY J.R.B.		DATE OF ISSUE
ADVERTISING CONSTRUCTION		
4-3-48		4-27-48



NOTE: ALL PARTS OF STRUCTURE ABOVE FOOTING SHALL BE CONSTRUCTED ON RESPECTIVE RADII.

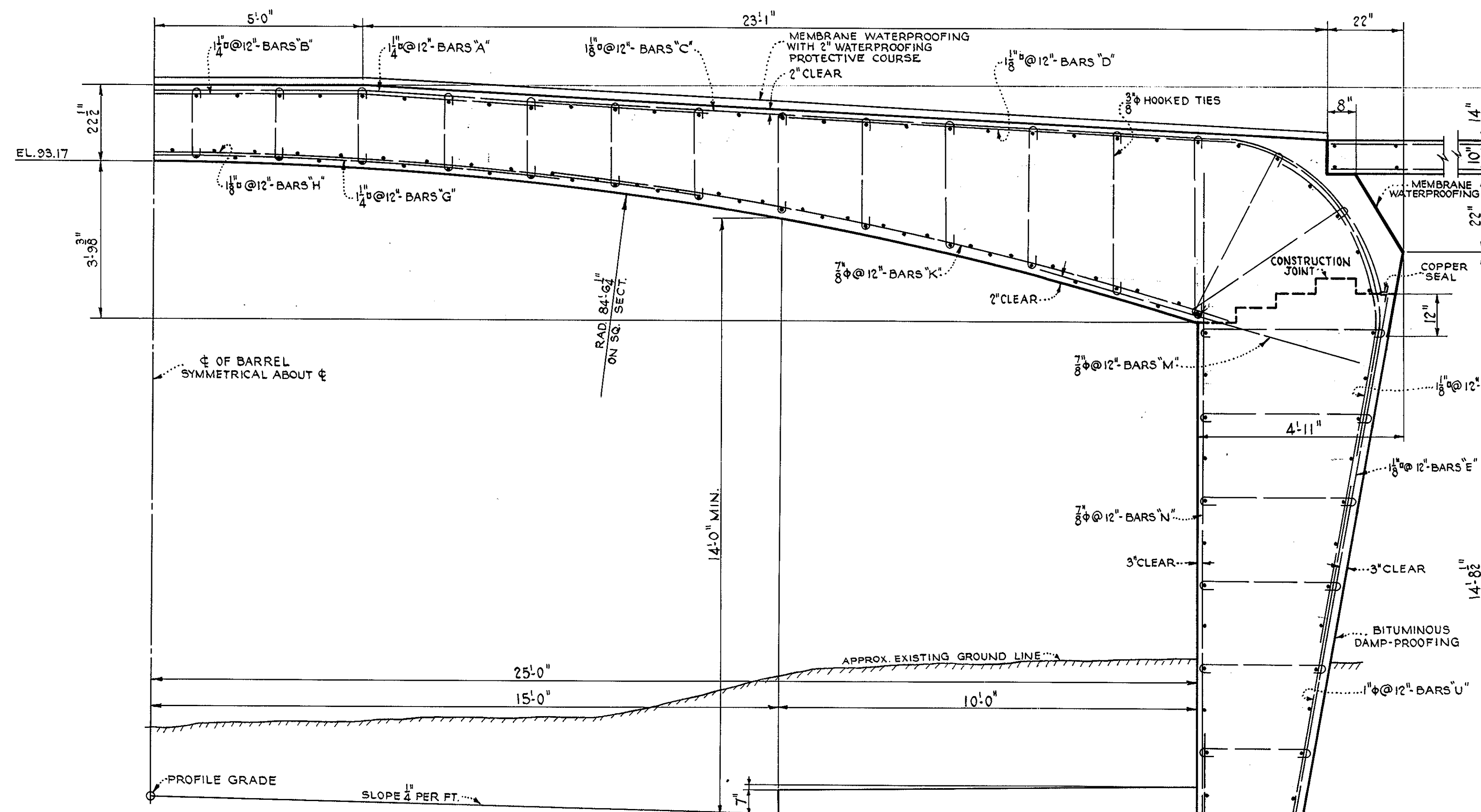


NORTHERLY ELEVATION SIMILAR - BUT DOES NOT HAVE BELT COURSE

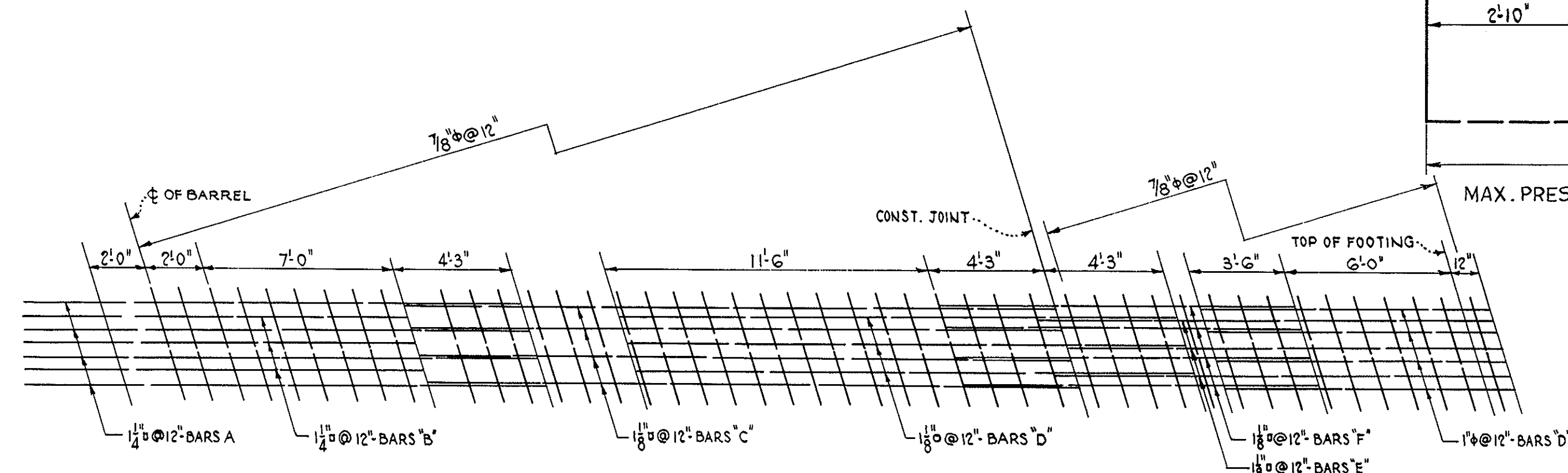


PUB. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	MASS.	272(7)	194	42	123

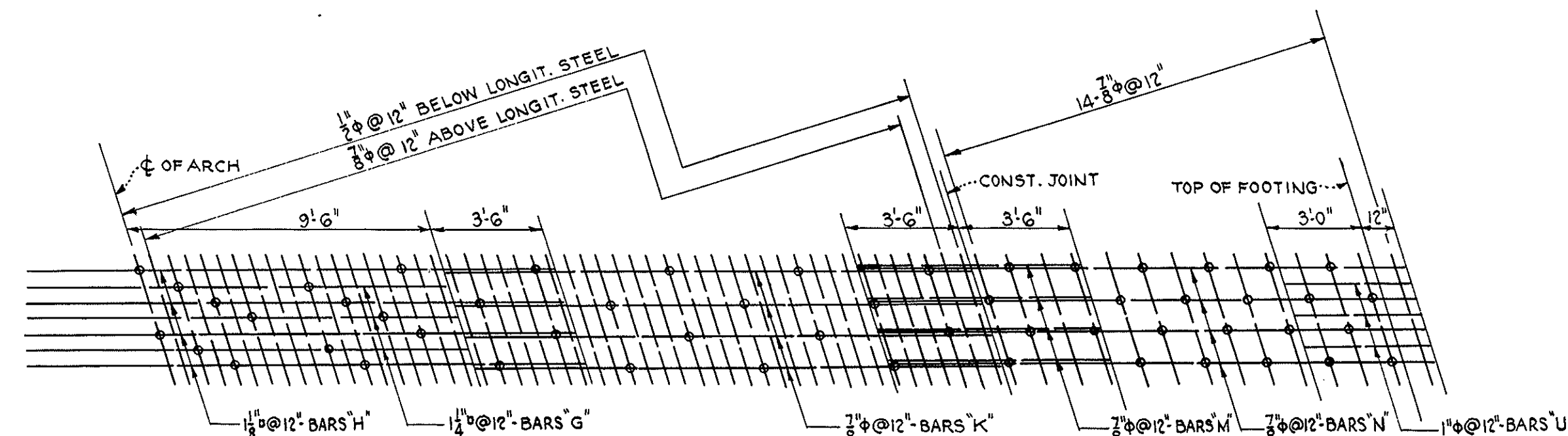
4-27-48	CONSTRUCTION
4-3-48	ADVERTISING
DATE	DESCRIPTION
USE ONLY PRINTS OF LATEST DATE	



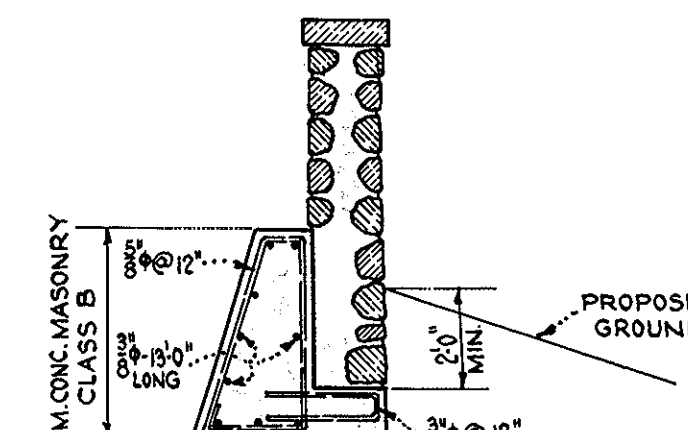
SQUARE HALF SECTION
SCALE $\frac{1}{2}'' = 1'-0''$



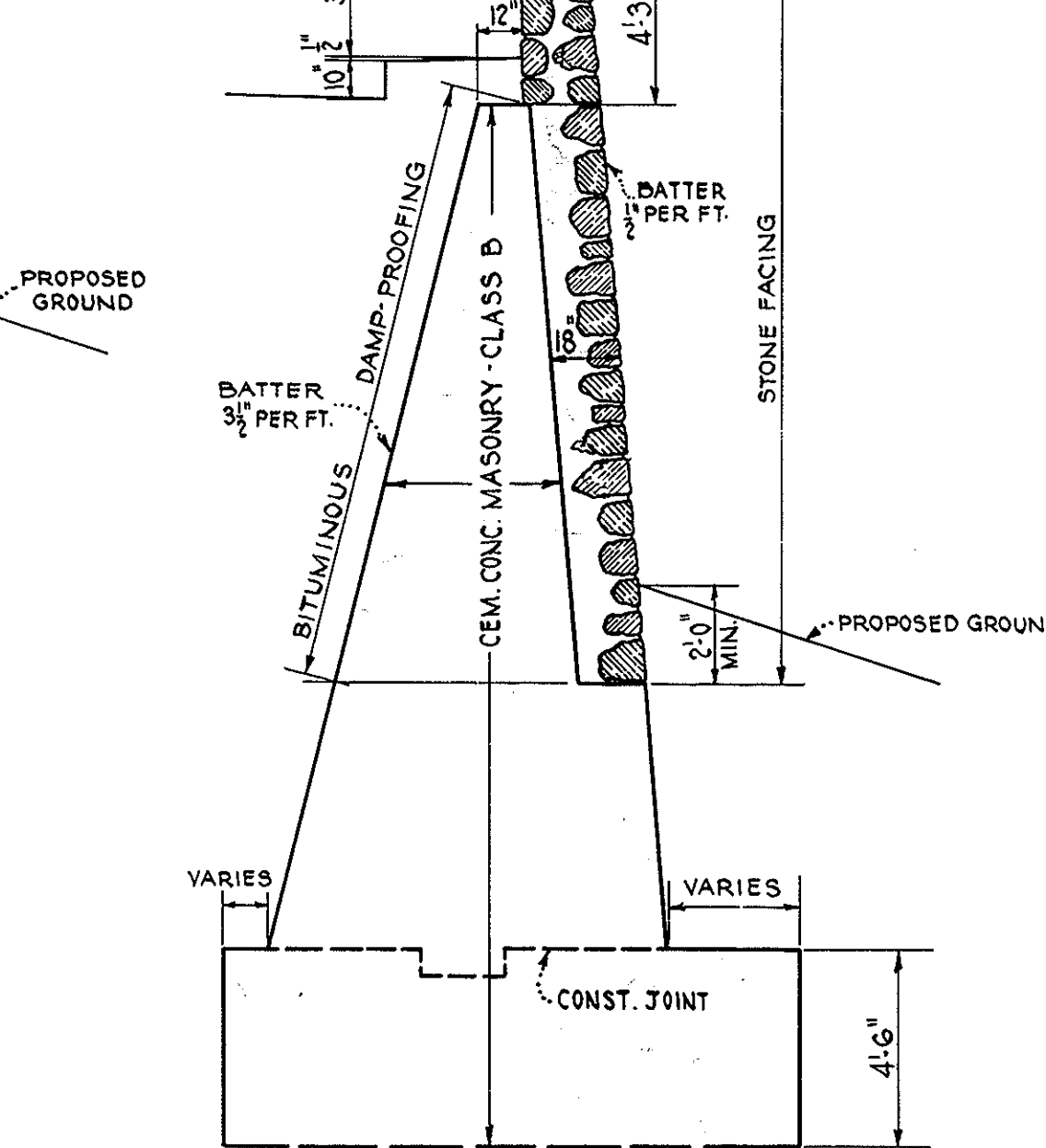
EXTRADOS



INTRADOS REINFORCEMENT DIAGRAM
(HALF SPAN DEVELOPED)
SCALE $\frac{1}{4}'' = 1'-0''$

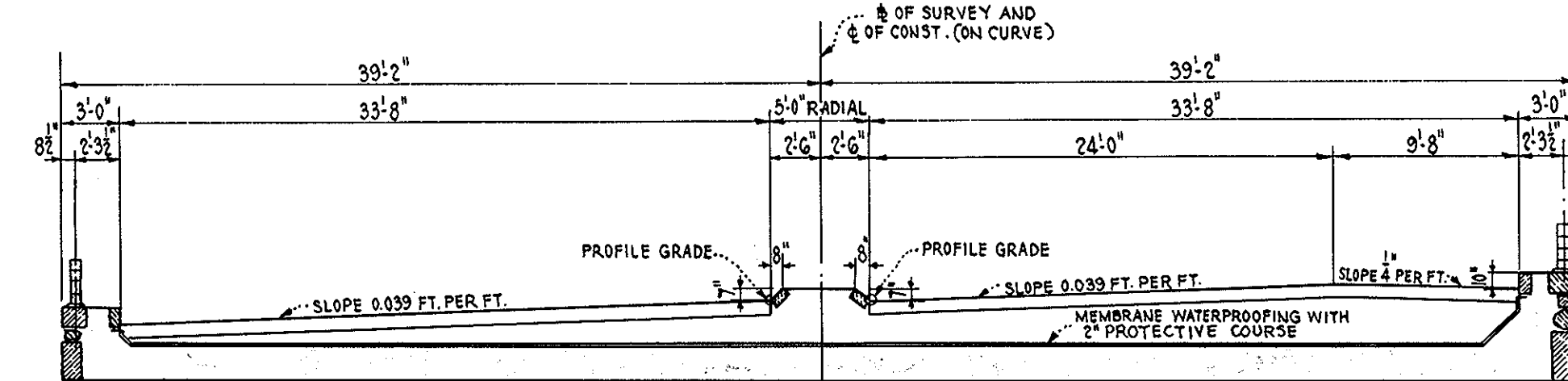


SECTION W-W
SCALE $\frac{1}{4}'' = 1'-0''$

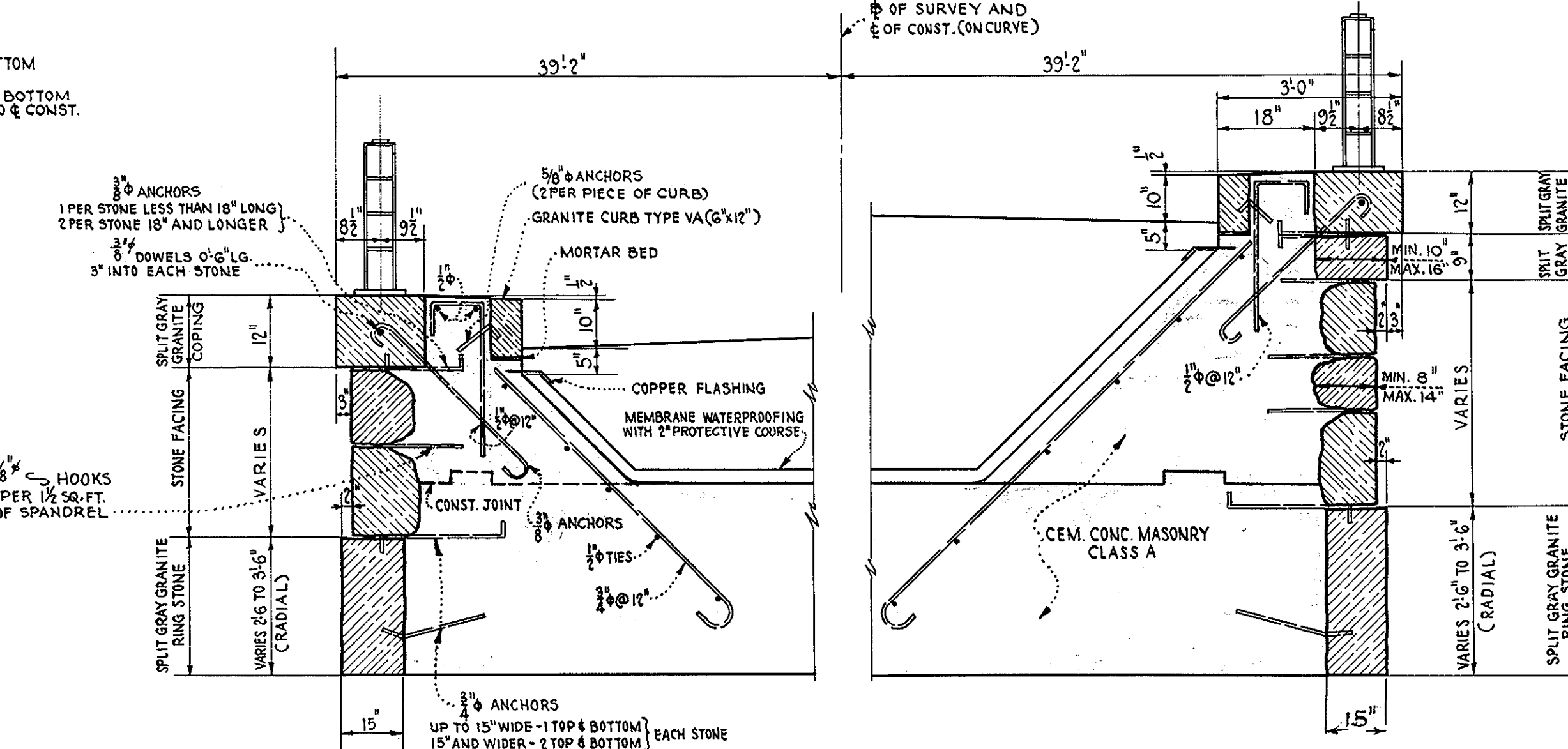


SECTION OF WING WALL
SCALE $\frac{1}{4}'' = 1'-0''$

MAX. PRESSURE UNDER FOOTING 6000 LBS PER SQ. FT.
FOOTING MAY BE OMITTED IF LEDGE IS ENCOUNTERED.

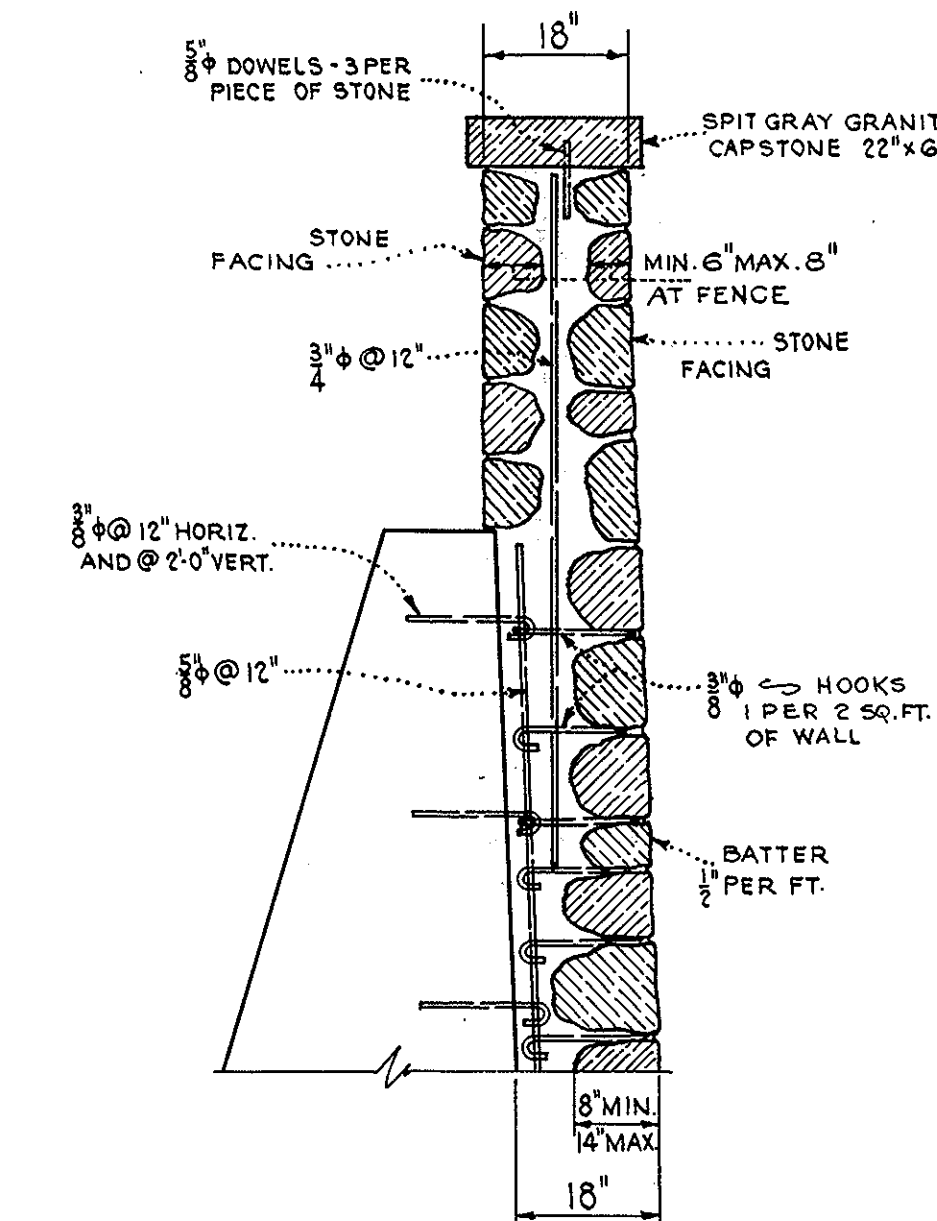


CROSS-SECTION
SCALE $\frac{1}{4}'' = 1'-0''$
TRANSVERSE DIMENSIONS ARE RADIAL



SPANDREL DETAILS
SCALE $\frac{1}{2}'' = 1'-0''$

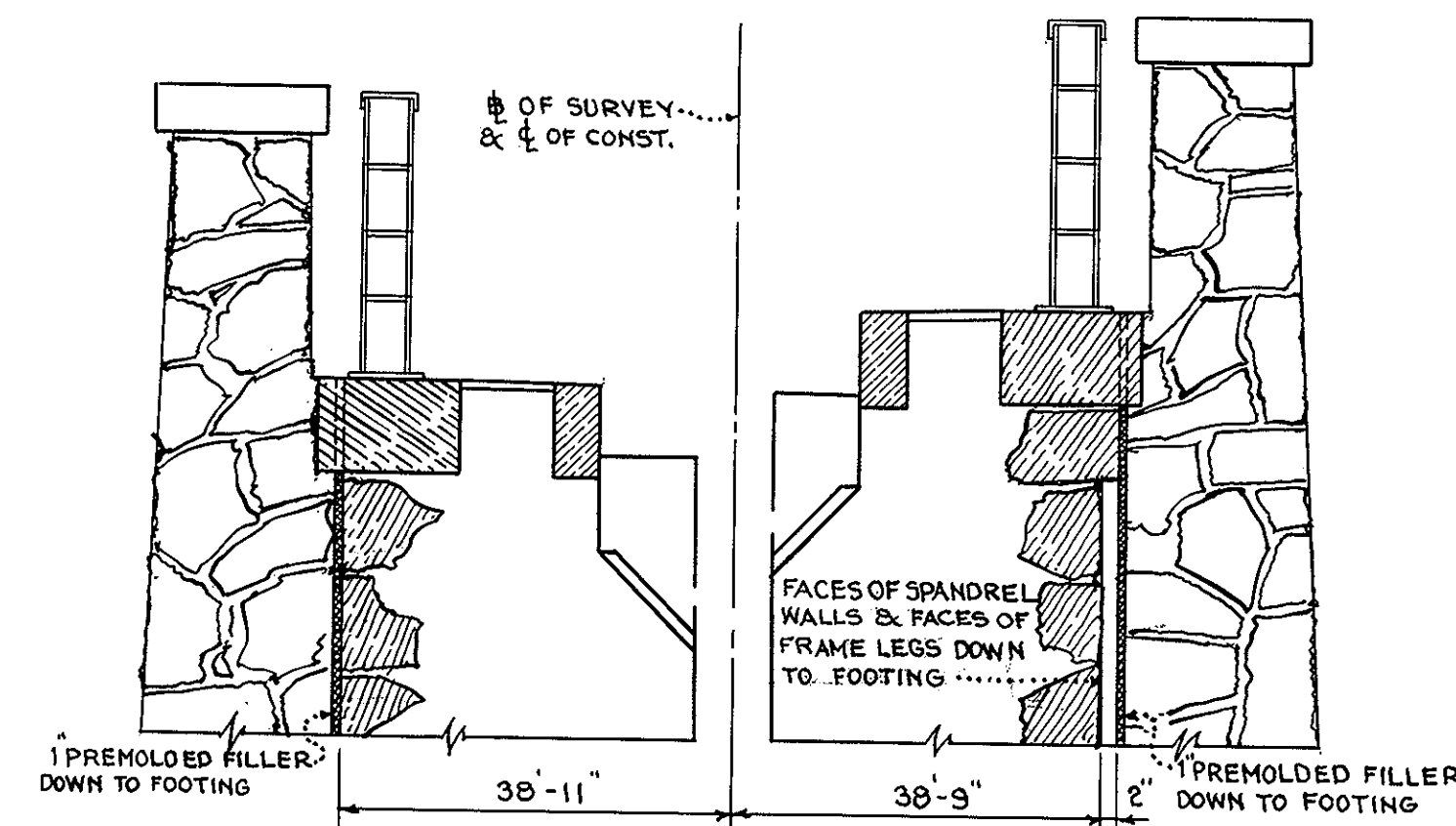
NOTE: ALL ANCHORS AND HOOKS FOR STONE MASONRY MAY BE OF WROUGHT IRON OR GALVANIZED STEEL.



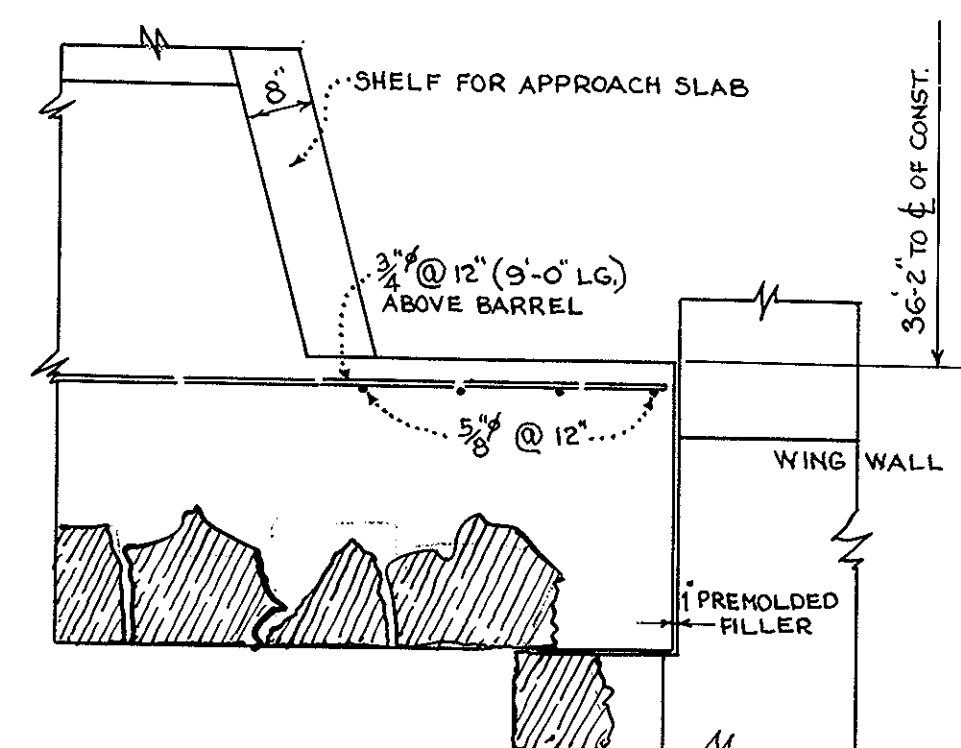
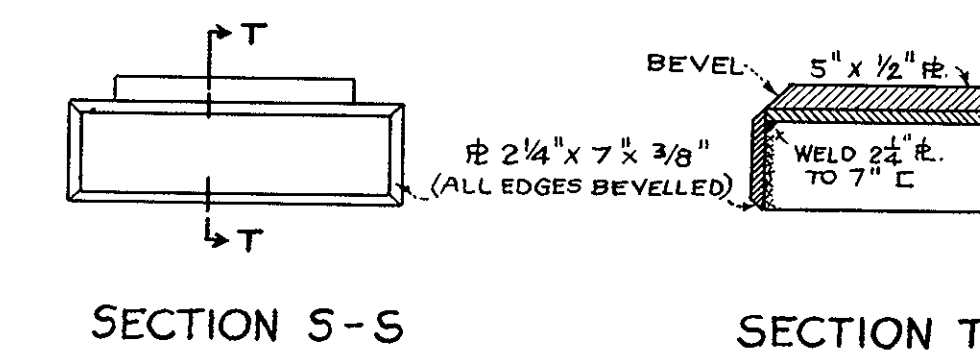
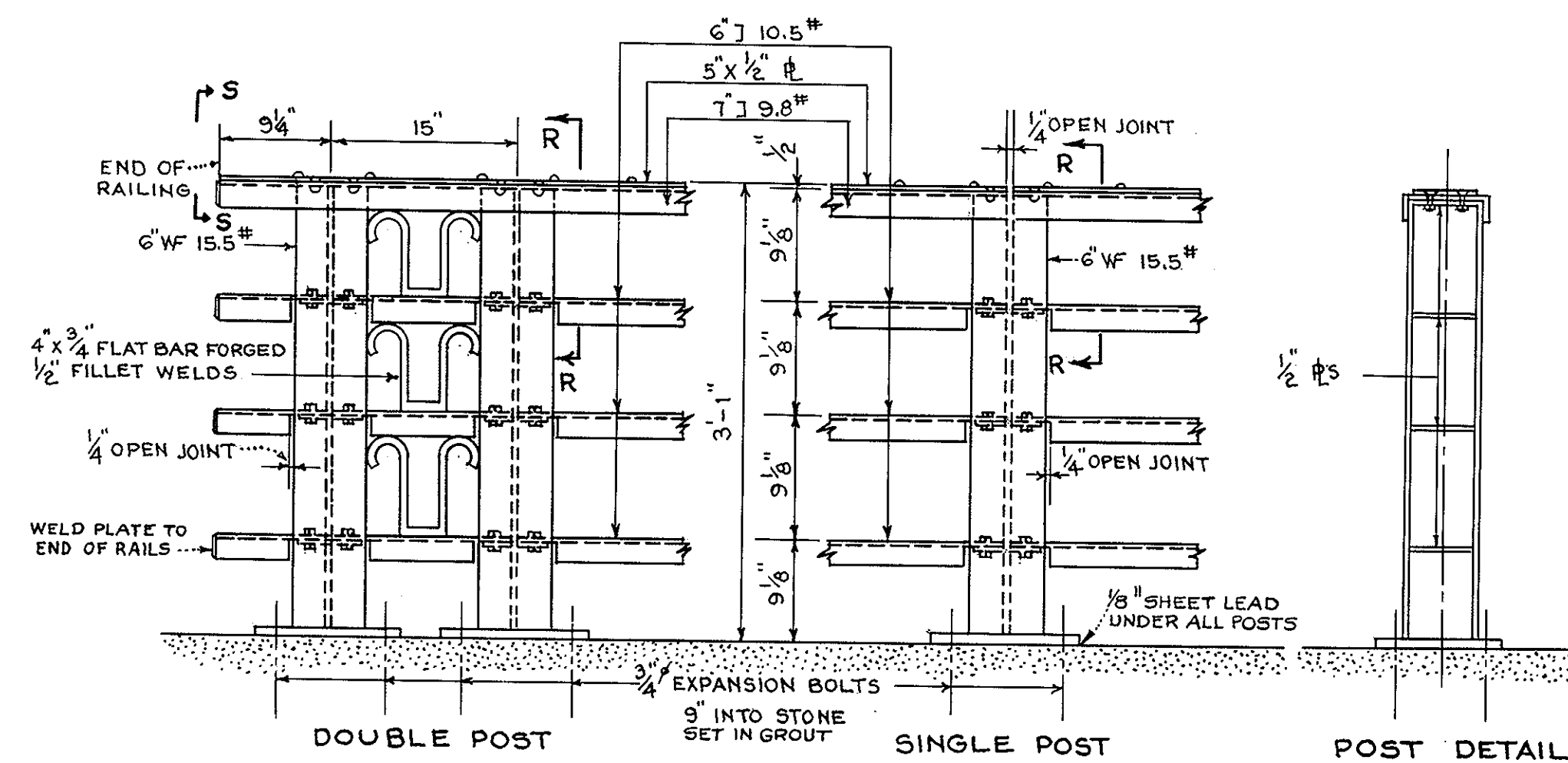
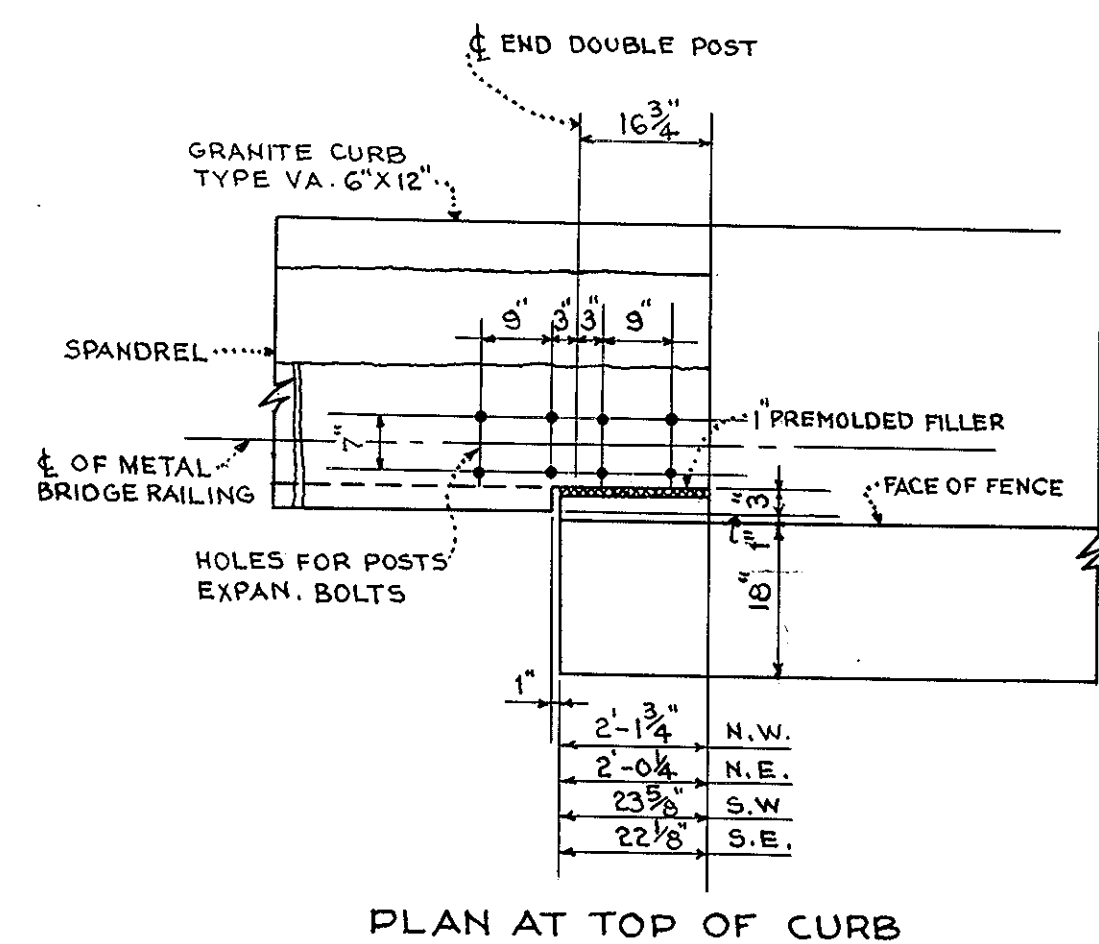
DETAIL OF WING WALL
SCALE $\frac{1}{2}'' = 1'-0''$

4-27-48	CONSTRUCTION
4-3-48	ADVERTISING
DATE	DESCRIPTION
USE ONLY PRINTS OF LATEST DATE	

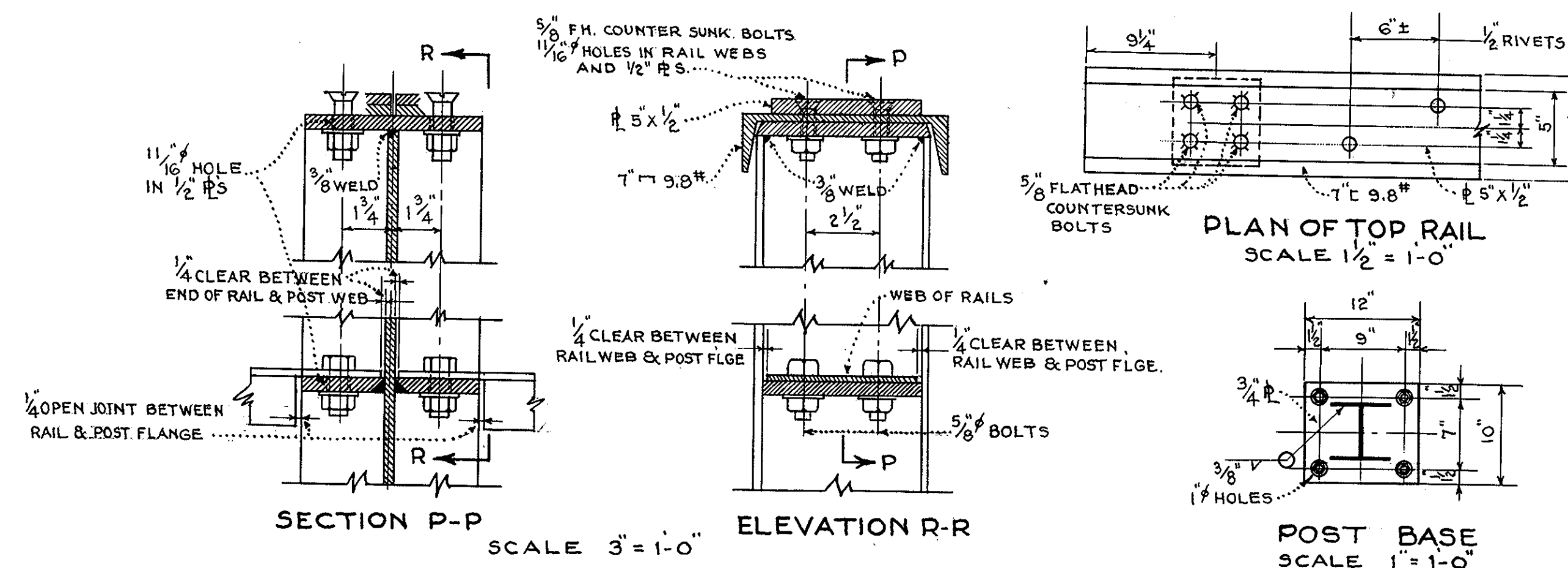
PUB. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	MASS.	272(07)	194	44	123



DETAILS AT ENDS OF SPANDRELS
SCALE $\frac{1}{2}'' = 1'-0''$

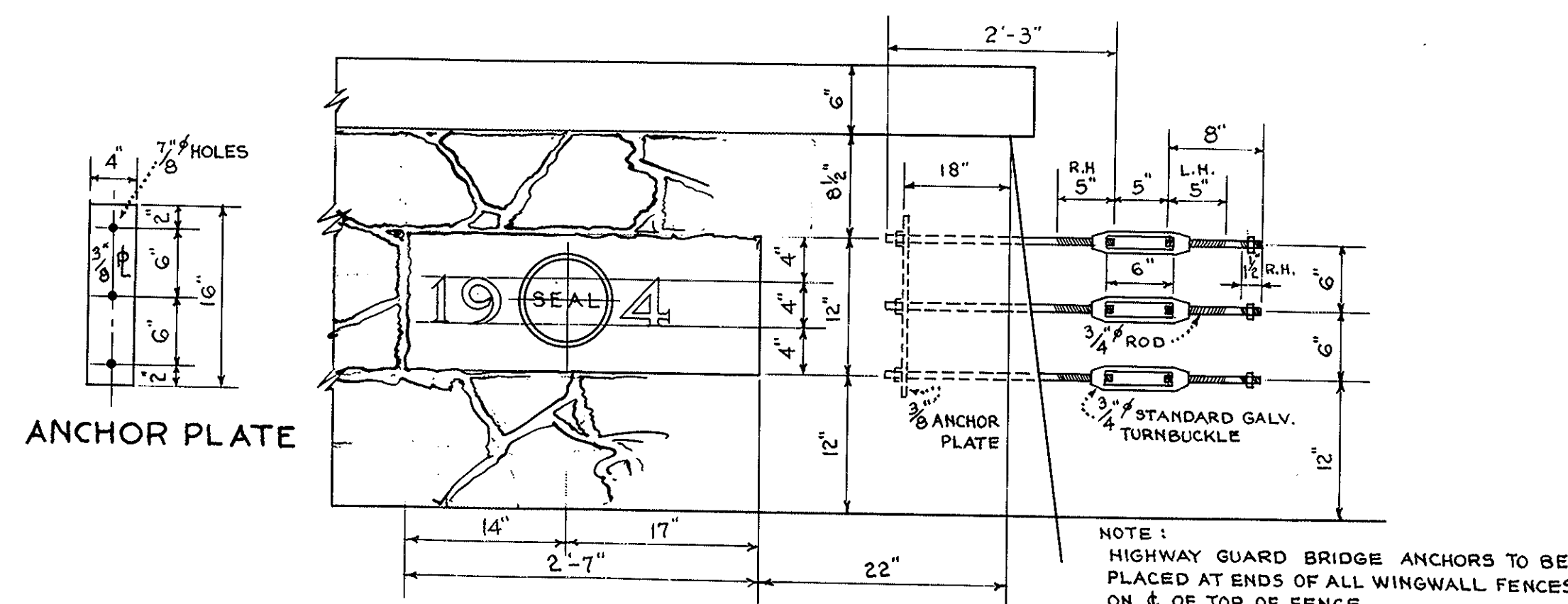


FOR DETAILS OF FASTENING STONE SEE
"SPANDREL DETAILS"



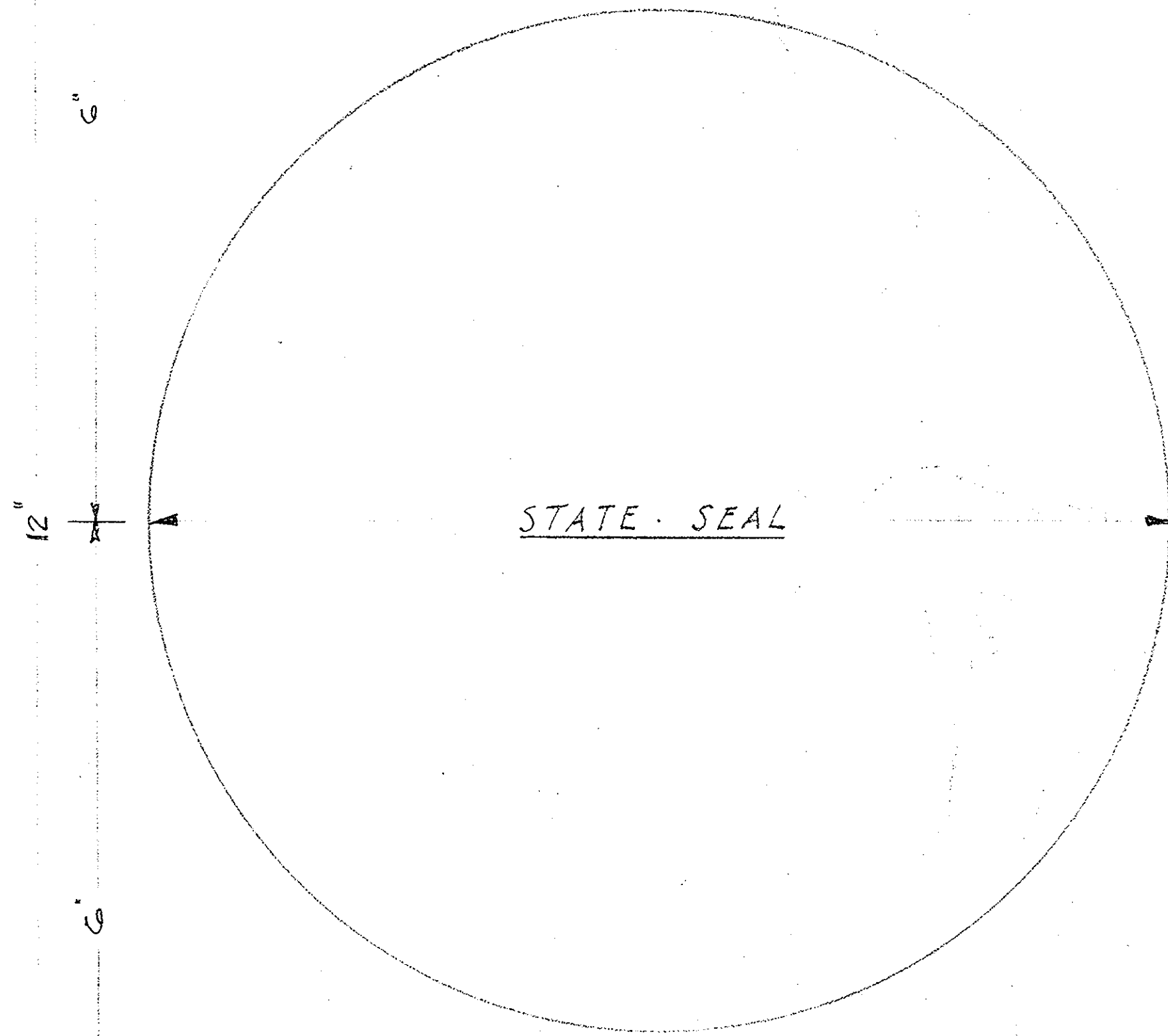
RAILINGS DETAILS
SCALE AS SHOWN

NOTE: ALL PARTS OF RAILING SHALL BE COPPER BEARING STRUCTURAL GRADE STEEL.



4-27-48	CONSTRUCTION
4-3-48	ADVERTISING
DATE	DESCRIPTION
USE ONLY PRINTS OF LATEST DATE	

19



48

PARALLEL TO TOP OF CAPSTONE AND BACK OF SIDEWALK

SAND BLAST
OR TOOL CUT
NUMERALS

FULL SIZE DETAIL OF DATE & SEAL STONE
FOR

CHARLES AVENUE - WAKEFIELD - BRIDGE N° W-1-8

OFFICE OF BRIDGE ENGINEER

MARCH 31, 1949

2'-7"

Seal of the Commonwealth of Massachusetts
Department of Public Works
BOSTON

PUB. NO.	STATE	FEDERAL AID PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	MASS.	U272 (41)		49	171

GENERAL NOTES

FOUNDATIONS

FOUNDATIONS MAY BE ALTERED, IF NECESSARY, TO SUIT CONDITIONS ENCOUNTERED IN CONSTRUCTION.

DATE & SEAL

TO BE PLACED ON THE INSIDE OF THE CONC. END POSTS AT THE NORTHEASTERLY AND SOUTHWESTERLY ENDS AS SHOWN IN DETAIL ON SHEET NO. 4. SEAL WILL BE FURNISHED BY THE COMMONWEALTH AND SHALL BE PLACED BY THE CONTRACTOR. A SHEET SHOWING SIZE AND CHARACTER OF NUMERALS WILL BE FURNISHED.

DESIGN

IN ACCORDANCE WITH THE CURRENT SPECIFICATIONS OF THE AMERICAN ASSOCIATION OF STATE HIGHWAY OFFICIALS FOR H-20-44 LOADING 1957 EDITION.

REINFORCEMENT

ALL BARS SHALL HAVE DEFORMATIONS CONFORMING TO A.S.T.M. DESIGNATION A 305. UNLESS SHOWN ON THE PLANS, REINFORCING BARS SHALL BE LAPPED 20 DIAMETERS TO MAKE A SPLICE, EXCEPT THAT MAIN REINFORCING BARS NEAR THE TOP OF SLABS AND BEAMS HAVING MORE THAN 12 INCHES OF CONCRETE UNDER THE BARS SHALL BE LAPPED 35 DIAMETERS TO MAKE A SPLICE.

DIMENSIONS

ALL DIMENSIONS AND DETAILS SHOWN FOR THE EXISTING STRUCTURE MUST BE CHECKED IN THE FIELD BY THE CONTRACTOR.

BENCH MARK

NORTH SIDE OF BRIDGE - EASTERLY END OF GRAN. CAP EL 101.70

ESTIMATED QUANTITIES

(NOT GUARANTEED)

BRIDGE EXCAVATION	1250	C.Y.
CLASS "B" ROCK EXCAVATION	10	C.Y.
CONCRETE EXCAVATION	190	C.Y.
REINFORCED CONCRETE EXCAVATION	125	C.Y.
GRAVEL BORROW	1200	C.Y.
BIT. CONC. WALK SURFACE	30	TONS.
CLASS A CEMENT CONCRETE MASONRY	1440	C.Y.
CLASS B CEMENT CONCRETE MASONRY	205	C.Y.
STEEL REINFORCEMENT FOR STRUCTURES	212,000	LBS.
MEMBRANE WATERPROOFING (3 PLY)	720	S.Y.
WATERPROOFING PROTECTIVE COURSE	720	S.Y.
BITUMINOUS DAMP-PROOFING	730	S.Y.
METAL BRIDGE RAILINGS (TYPE B, MODIFIED)	148	L.F.
DRILLING DOWEL HOLES	170	L.F.
BRIDGE ANCHOR ASSEMBLIES	4	E.A.
GRANITE CURB TYPE VAS STR 6" x 12"	143	L.F.
GRANITE EDGING TYPE SPA STR. 8" x 12"	58	L.F.
METAL BRIDGE RAILING (R.&R.)	128	L.F.

FEB. 20, 1960 ISSUED FOR CONSTRUCTION

THE COMMONWEALTH OF MASSACHUSETTS
PROPOSED BRIDGE
WIDENING
WAKEFIELD

AUTO ROUTE 128 STA. 188+84.39

OVER CHARLES AVENUE STA. 3+49.61

SCALES AS NOTED

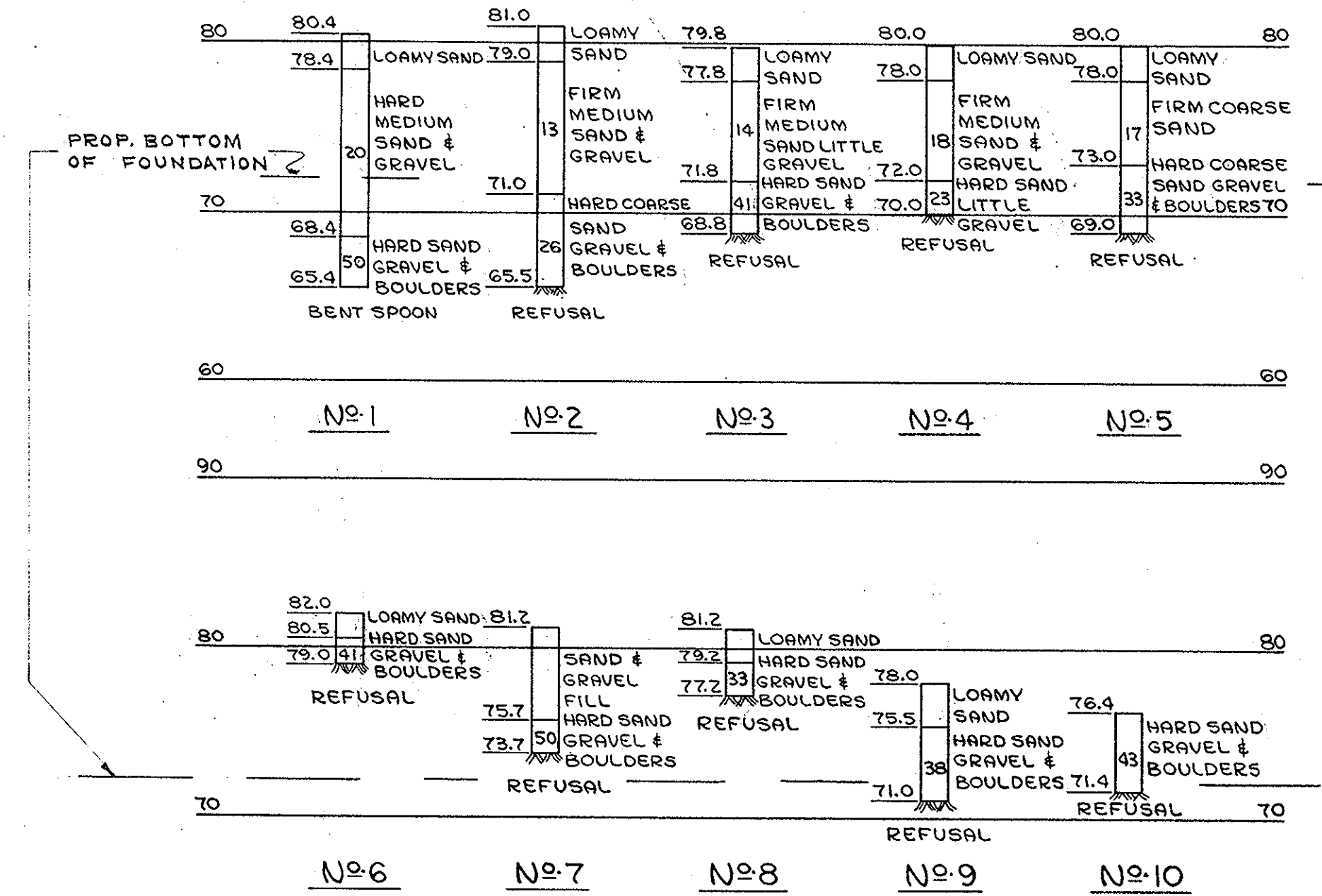
OFFICE OF
DEPARTMENT OF PUBLIC WORKS
100 NASHUA ST. - BOSTON, MASS.

FEBRUARY 1960

CONSULTING ENGINEER
UTILITY ENGINEERS, INC.
BOSTON, MASS.

BRIDGE ENGINEER

SHEET 1 OF 4 SHEETS BRIDGE NO. W-1-8

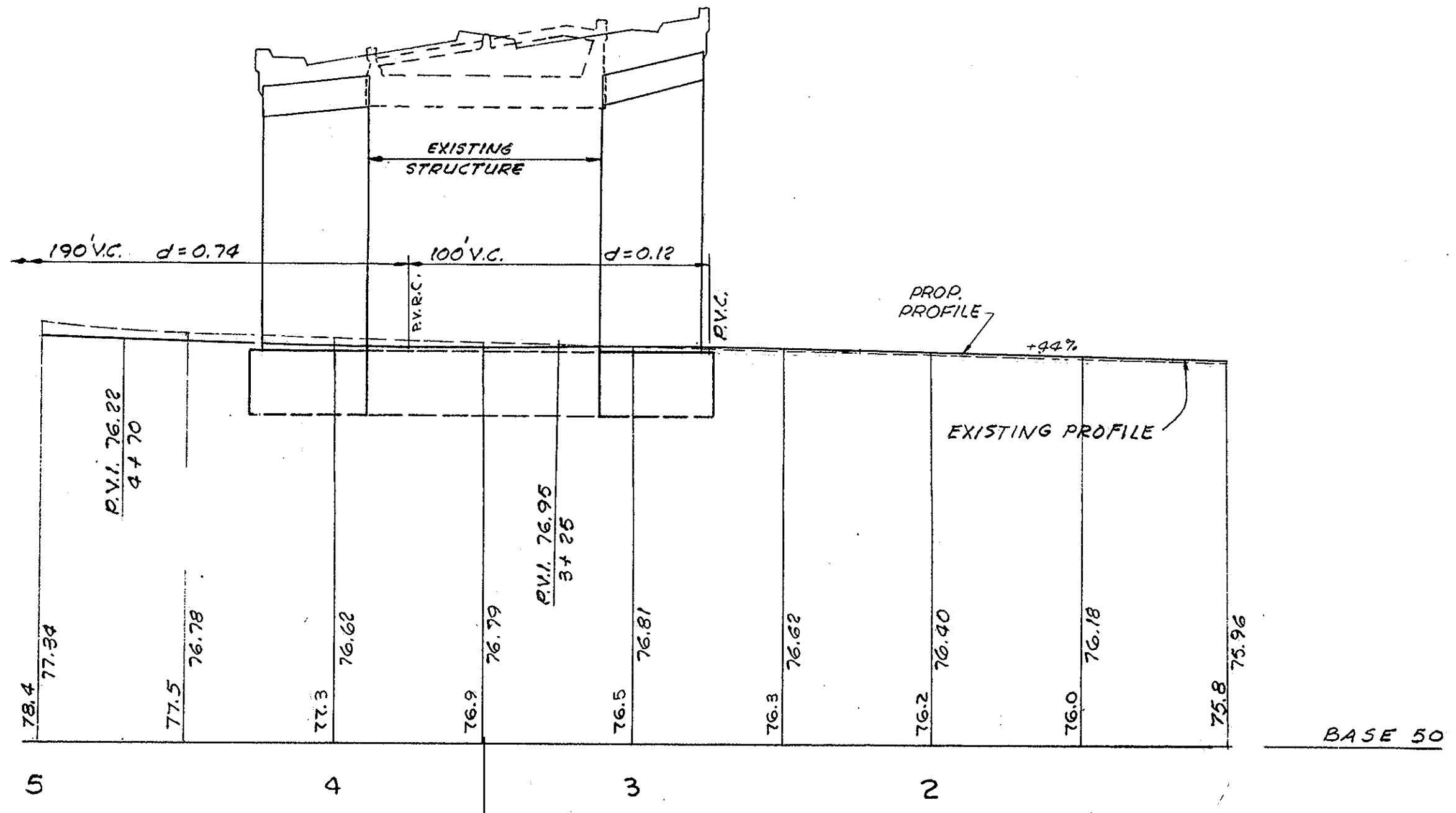


BORING DATA

SCALE: 1" = 8'-0"
BORINGS TAKEN NOV. 1944

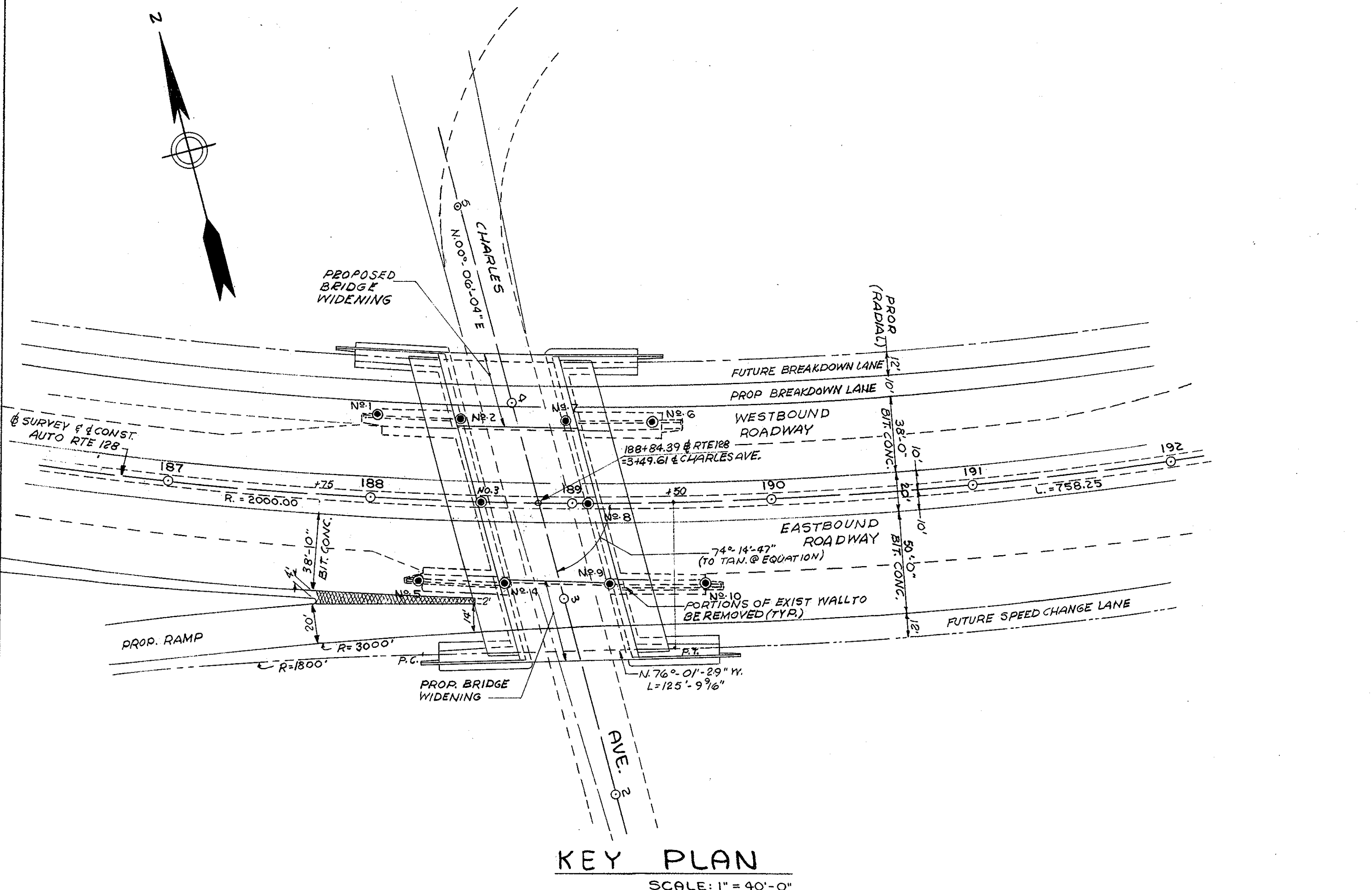
BORING NOTES

LOCATION OF BORINGS SHOWN ON PLAN THUS: ● NO. 1 BORINGS TAKEN FOR PURPOSE OF DESIGN AND SHOW CONDITIONS AT BORING POINTS ONLY, BUT DO NOT NECESSARILY SHOW NATURE OF MATERIAL TO BE ENCOUNTERED IN CONNECTION WITH THE CONSTRUCTION OF THE BRIDGE. FIGURES IN COLUMNS INDICATE BLOWS PER FOOT ON A 1" ϕ PIPE PRODUCED BY A 30" FALL OF A 140# HAMMER. SAMPLES OF BORINGS ARE UNAVAILABLE.



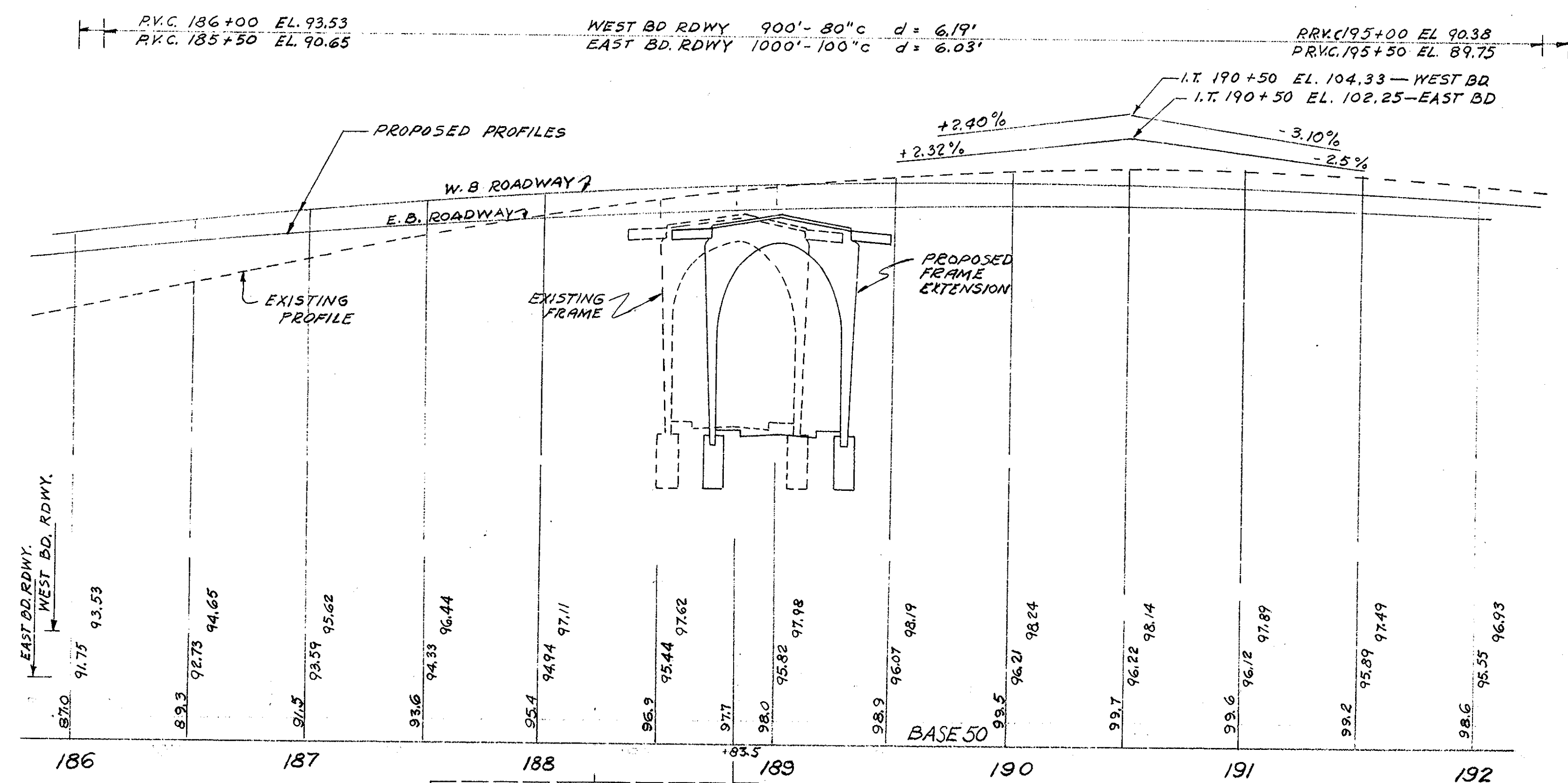
STA. 3+49.61 CHARLES AVE.
STA. 188+84.39 AUTO RTE. 128

PROFILE - CHARLES AVE.
HOR. SCALE: 1" = 40'-0" VERT. SCALE: 1" = 8'-0"



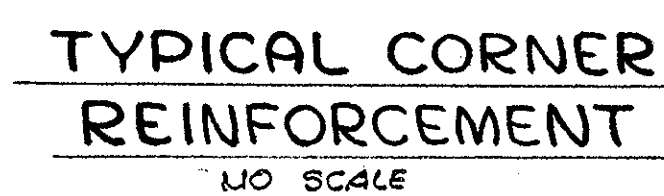
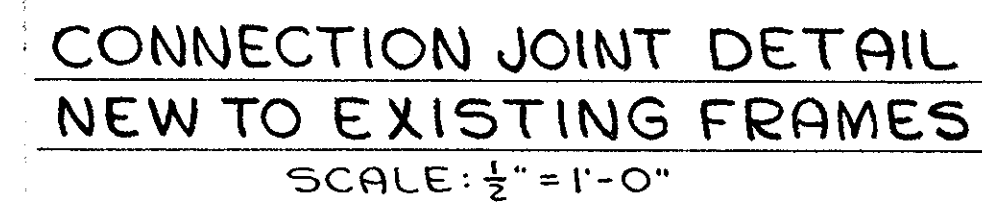
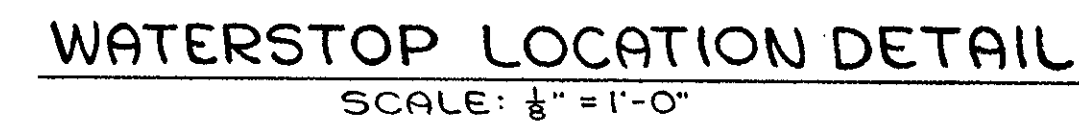
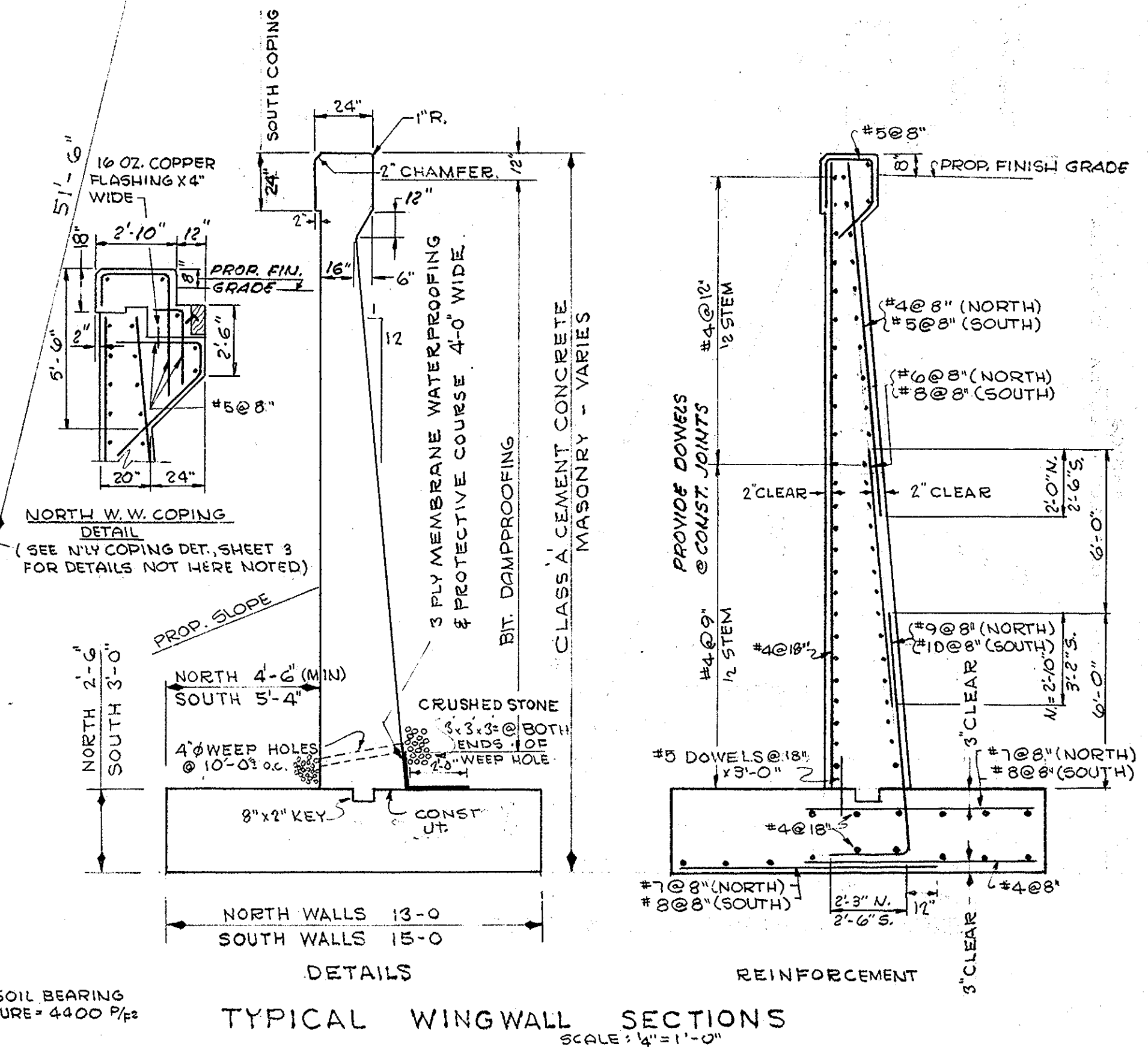
KEY PLAN

SCALE: 1" = 40'-0"

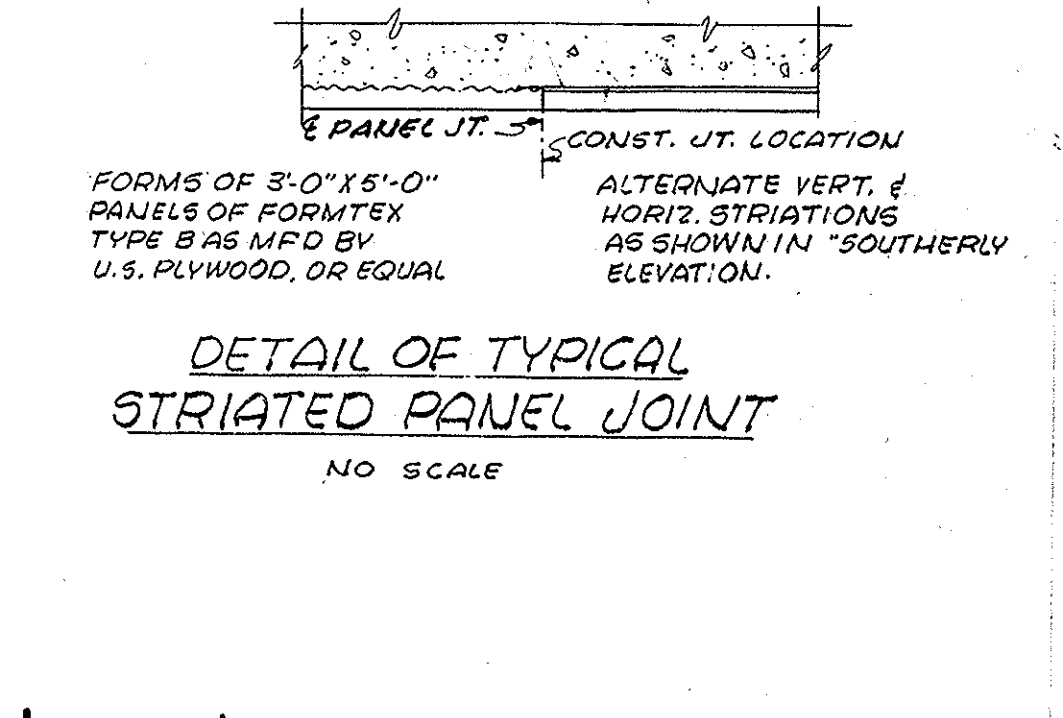
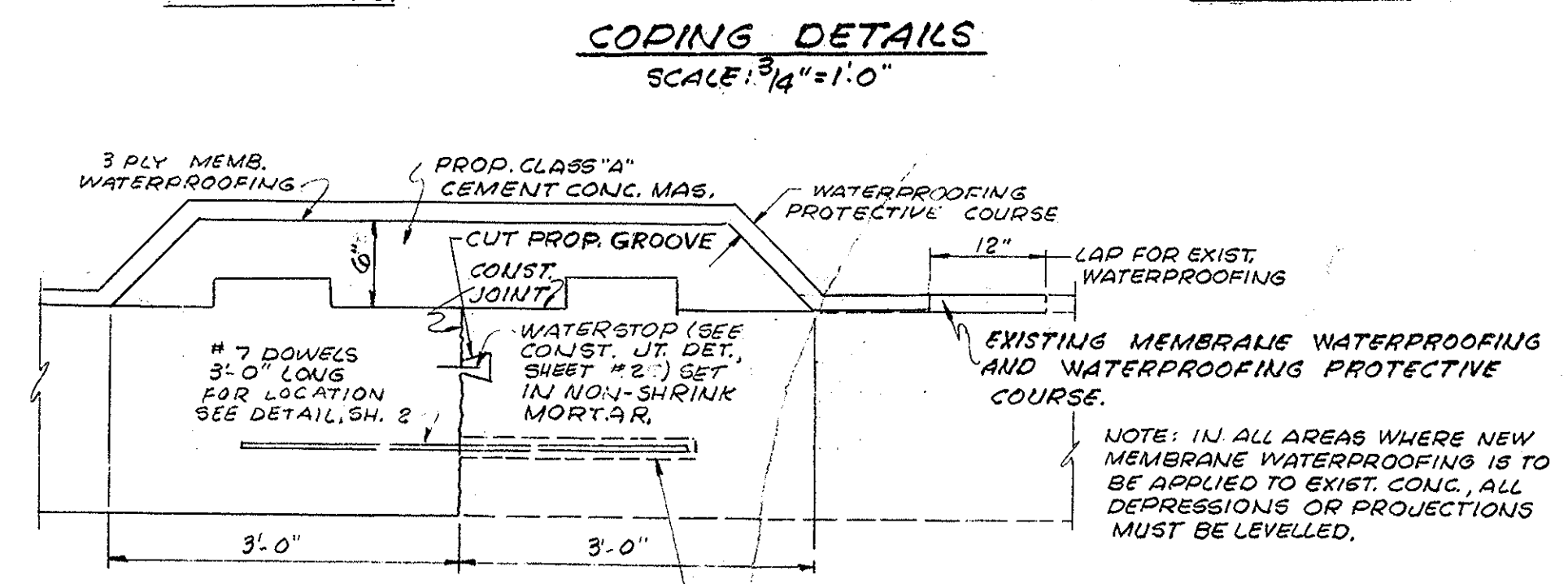
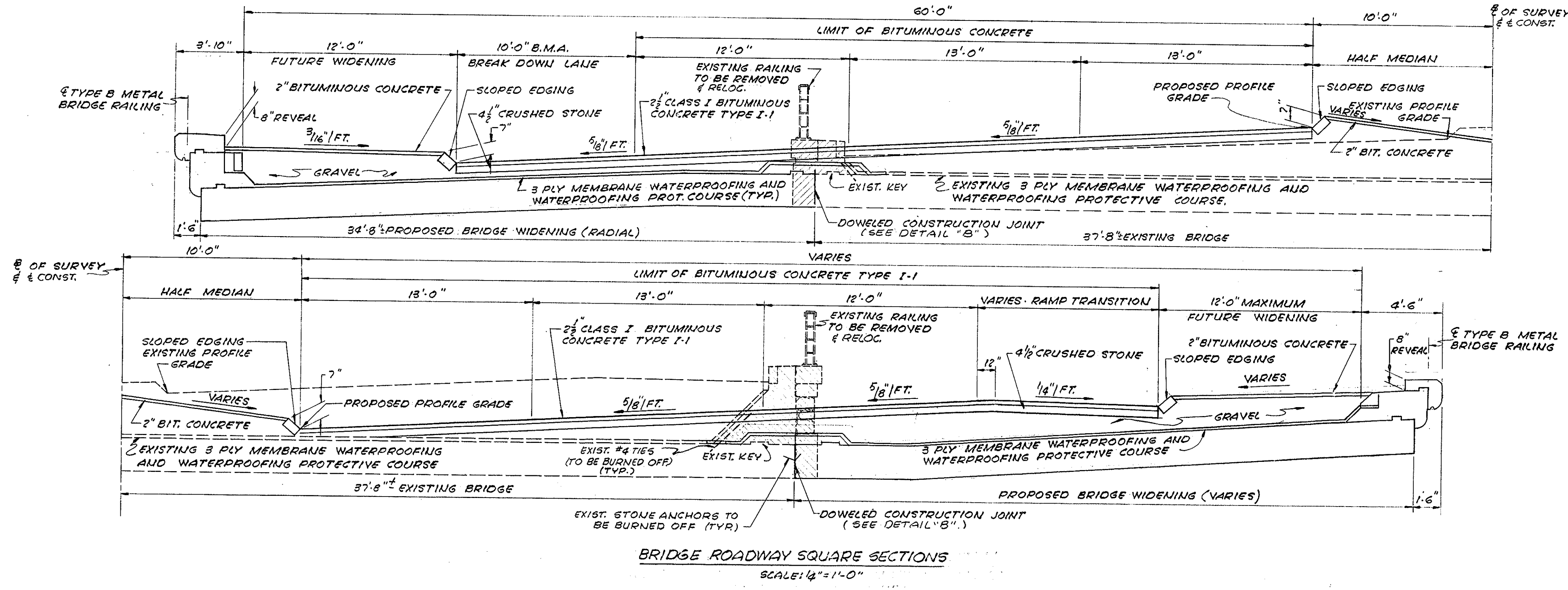
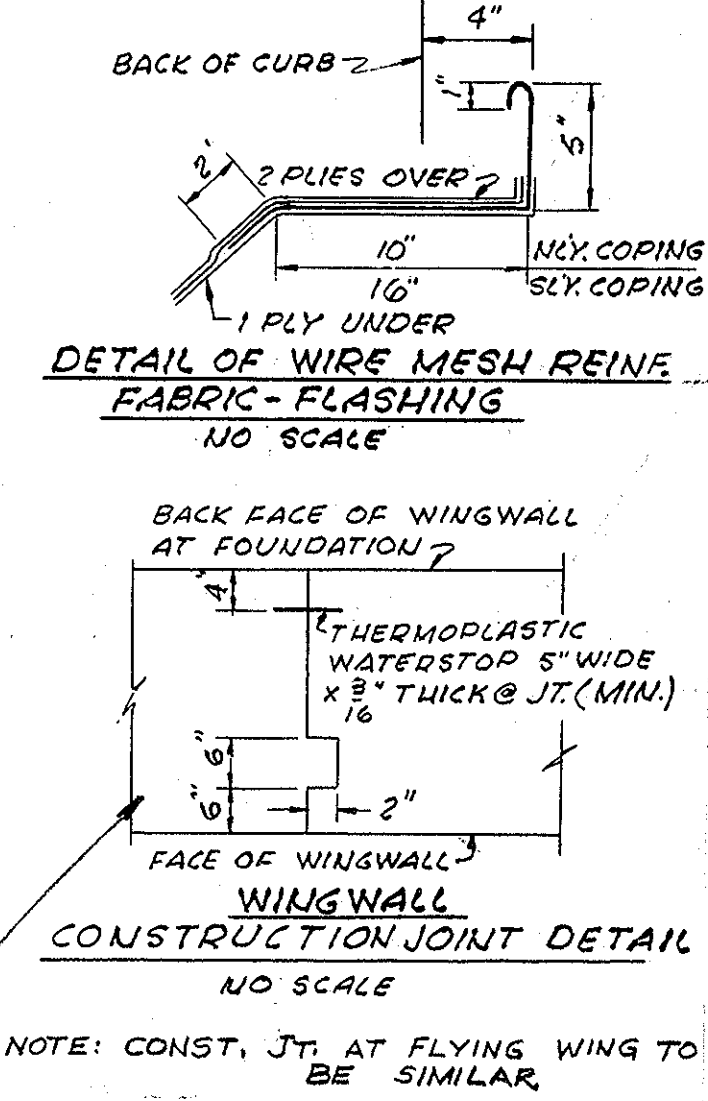
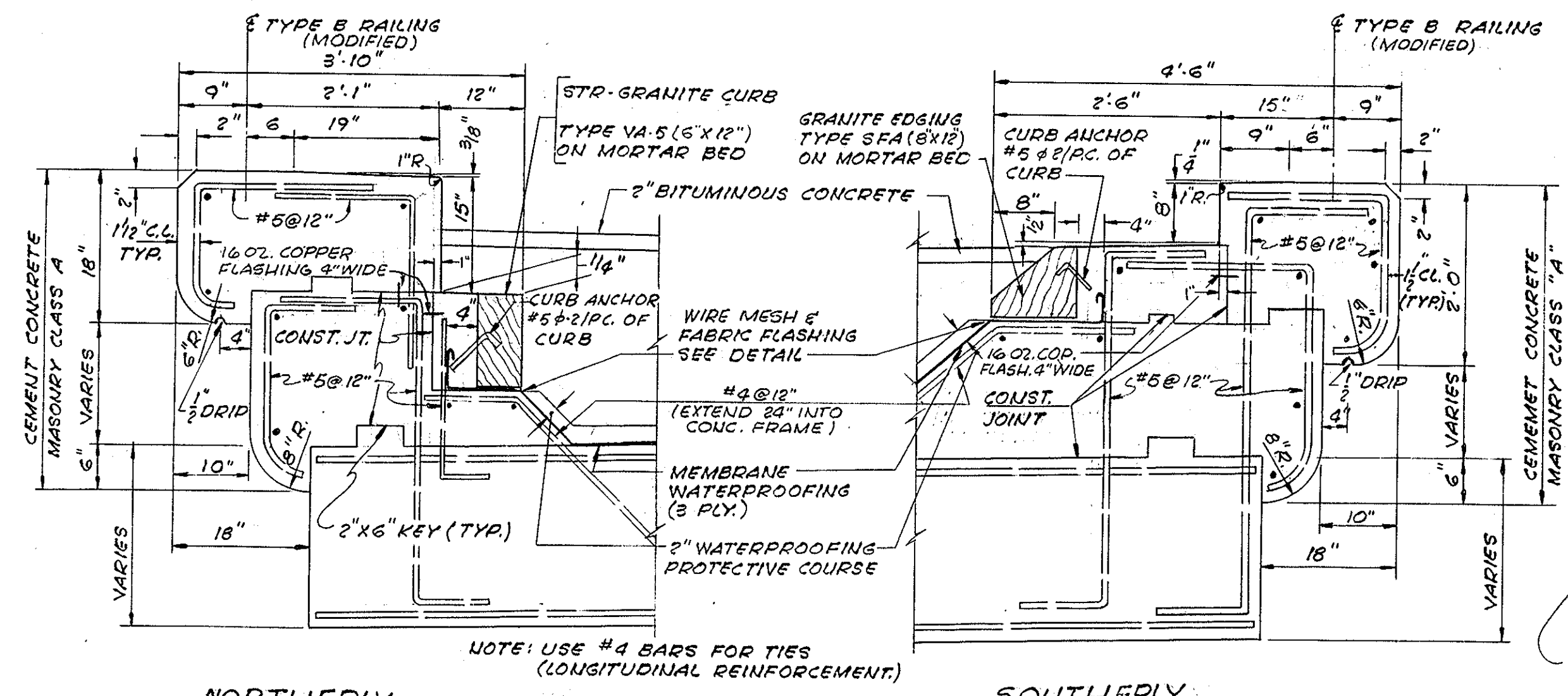
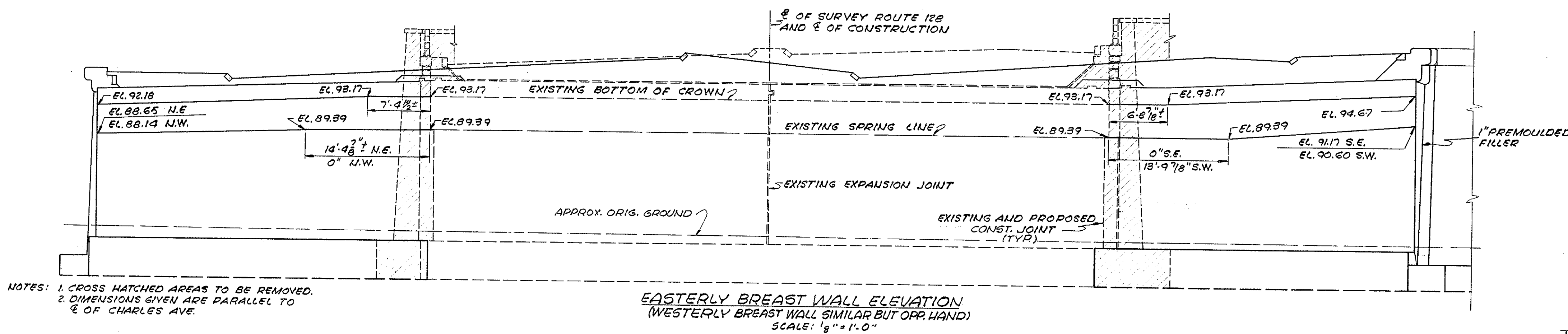
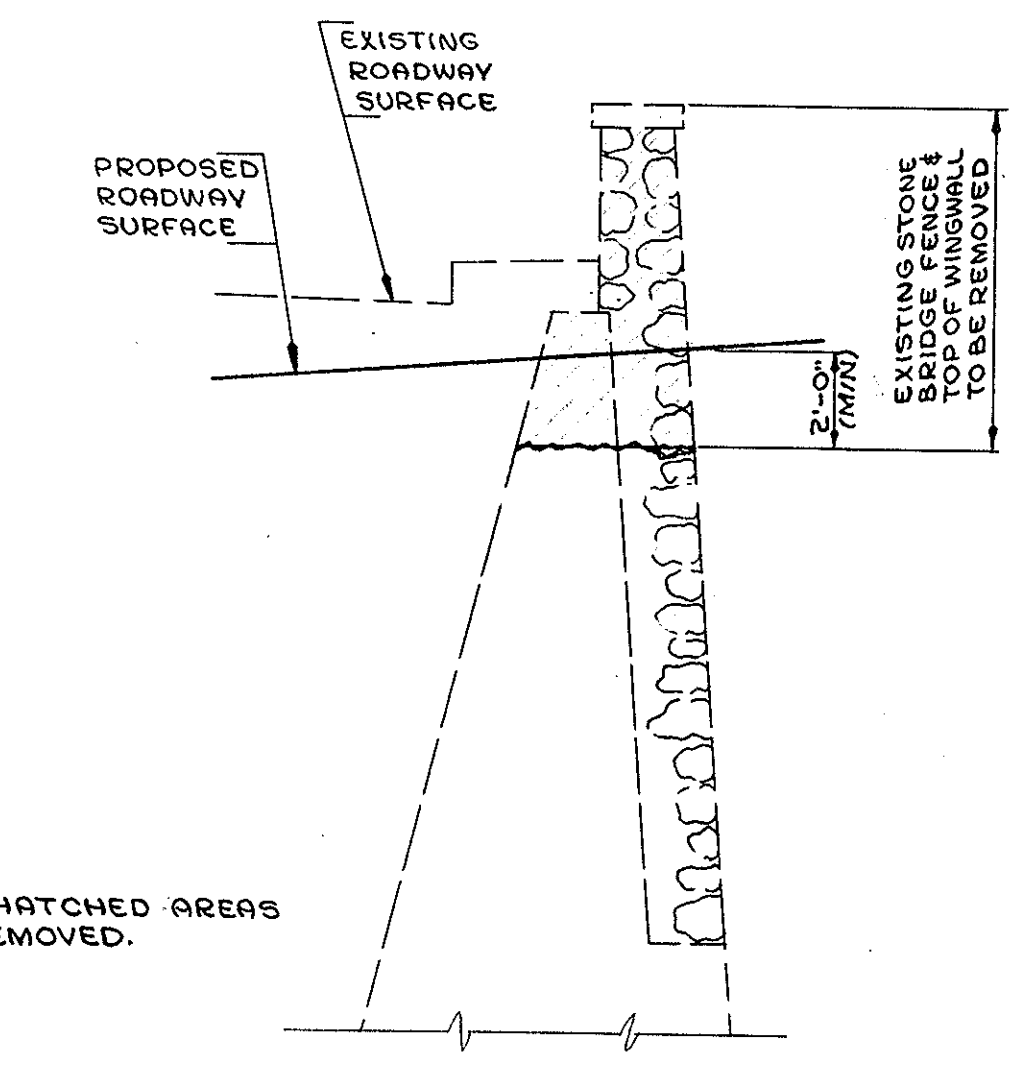
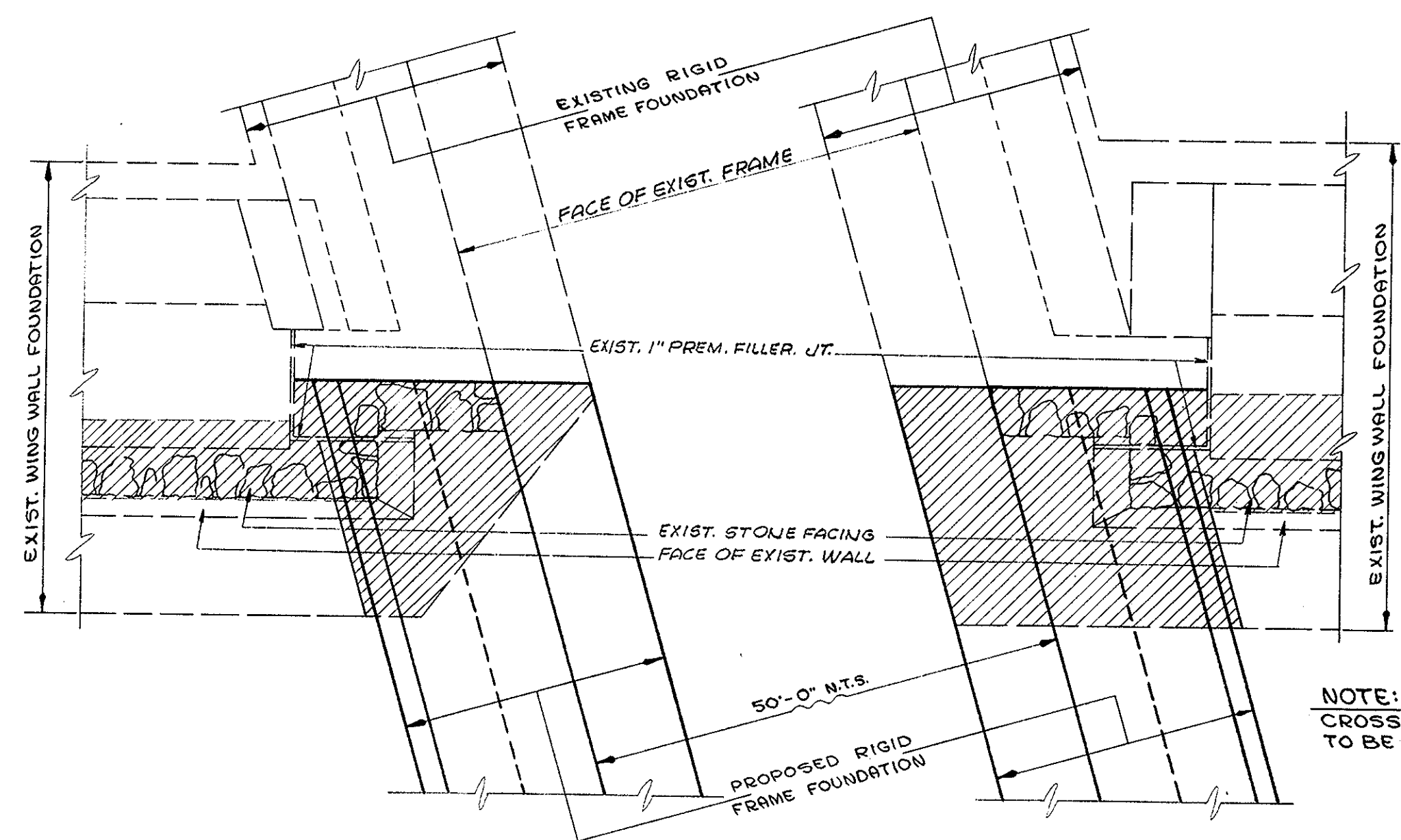
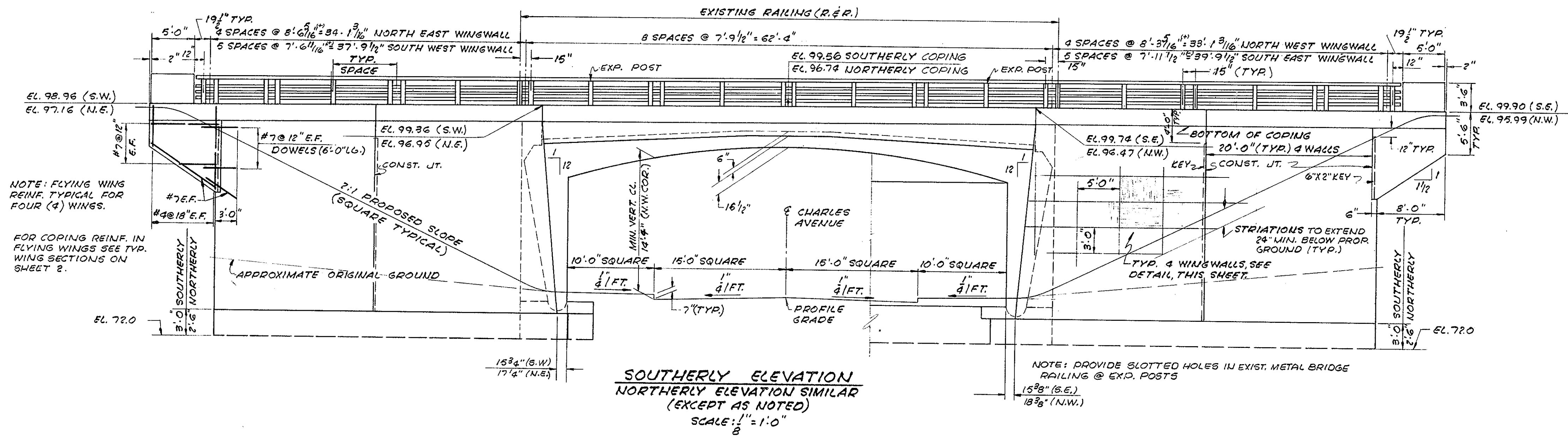


STA. 188+84.39 AUTO RTE. 128
STA. 3+49.61 CHARLES AVE.

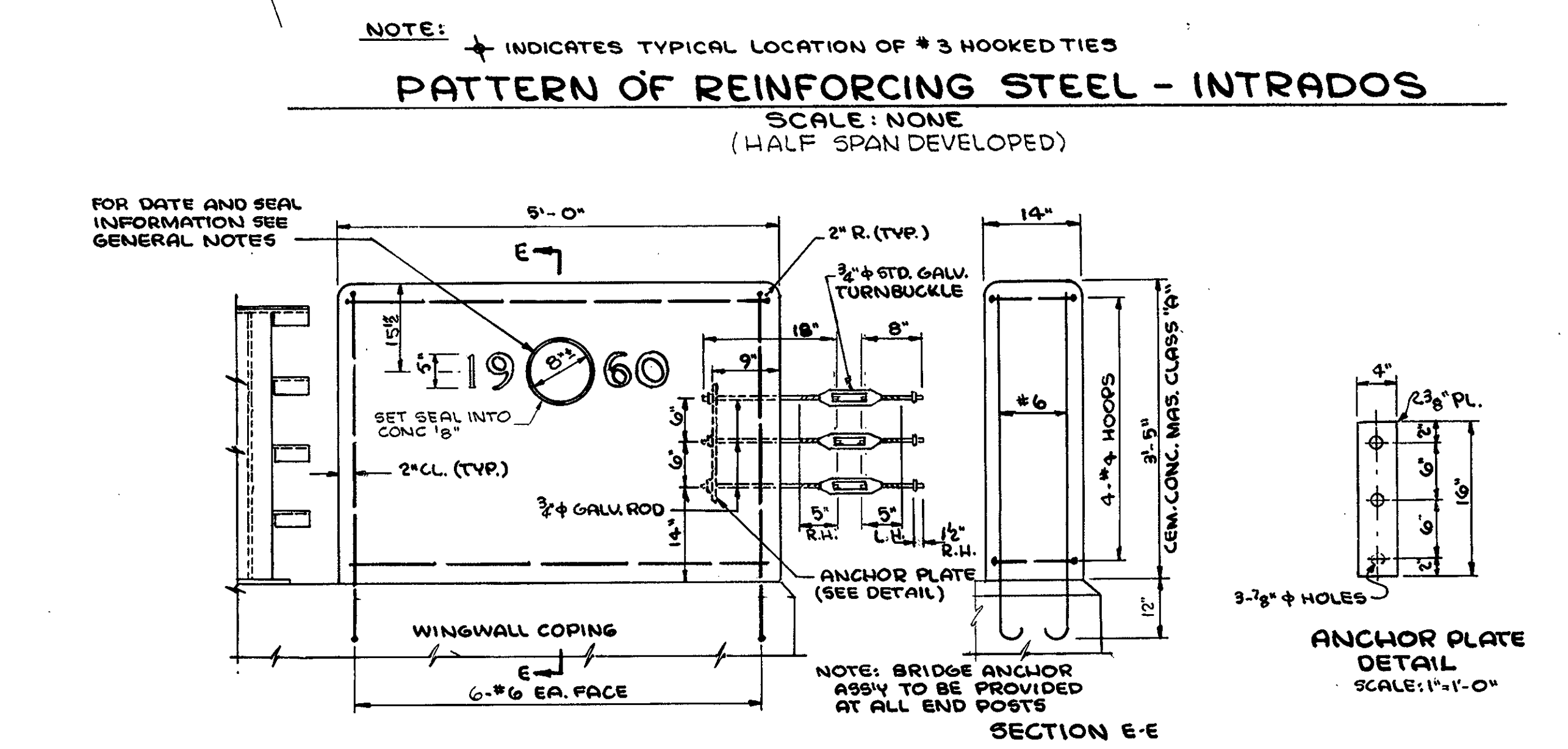
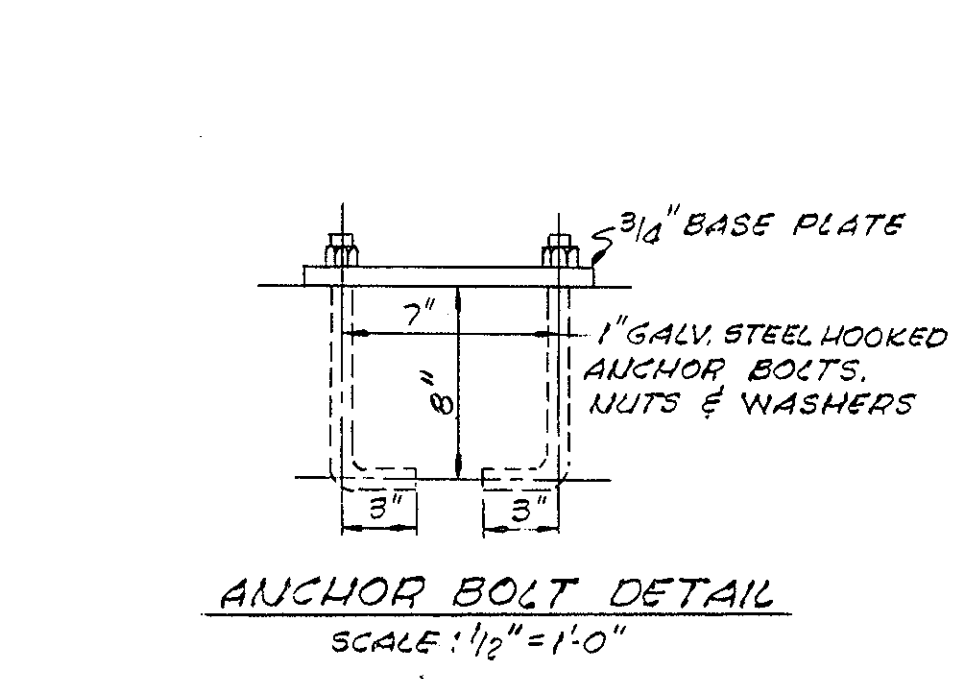
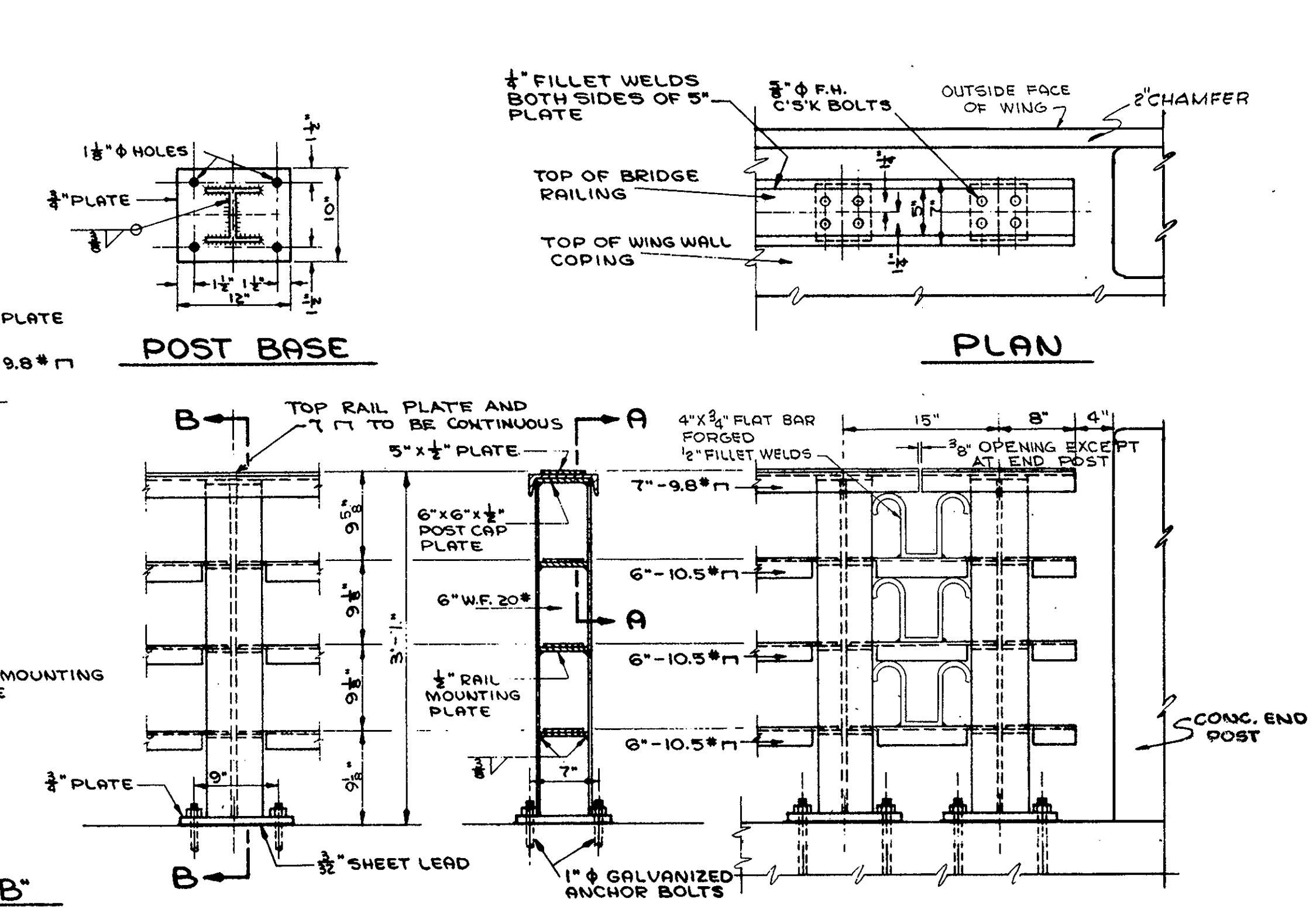
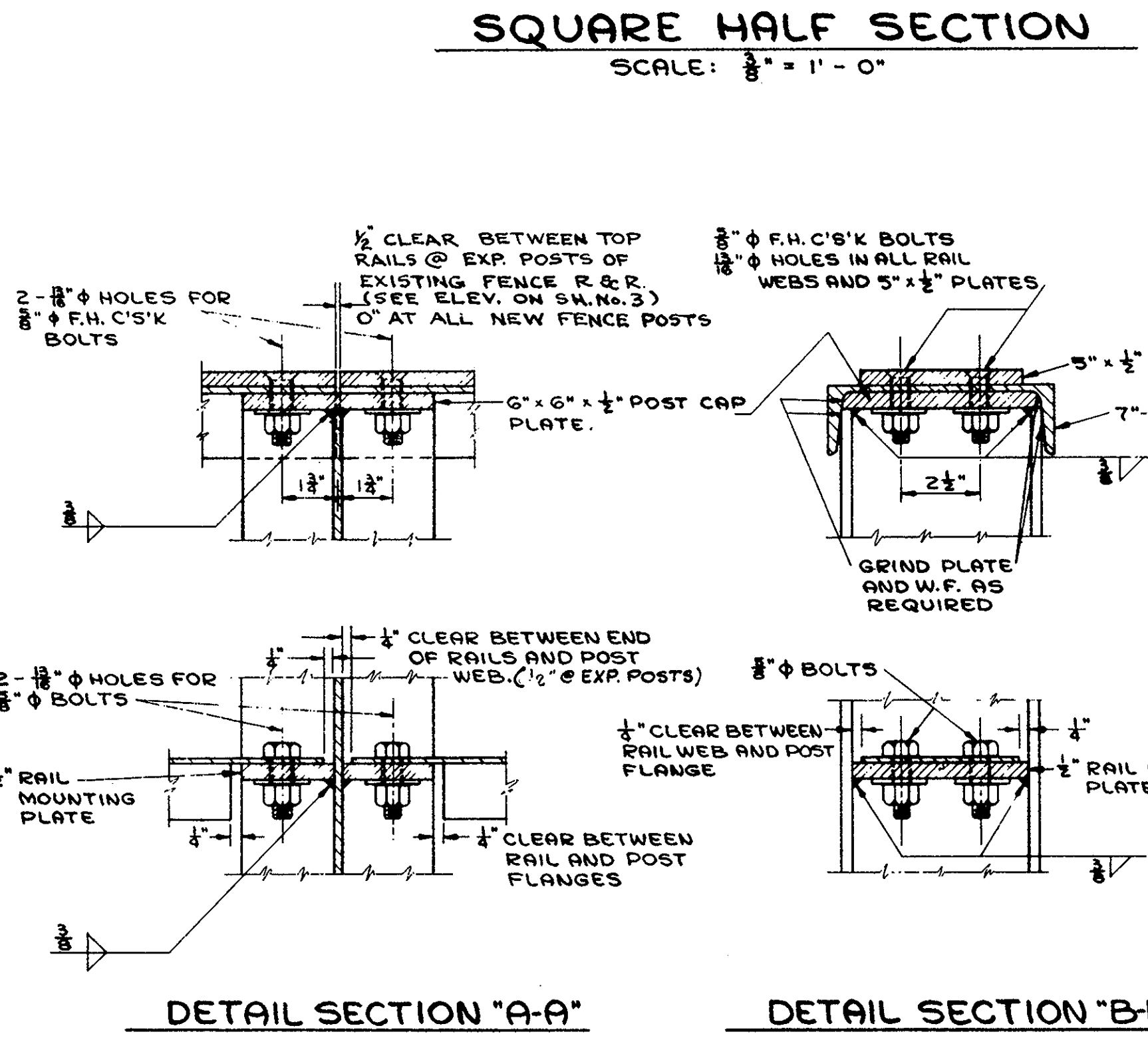
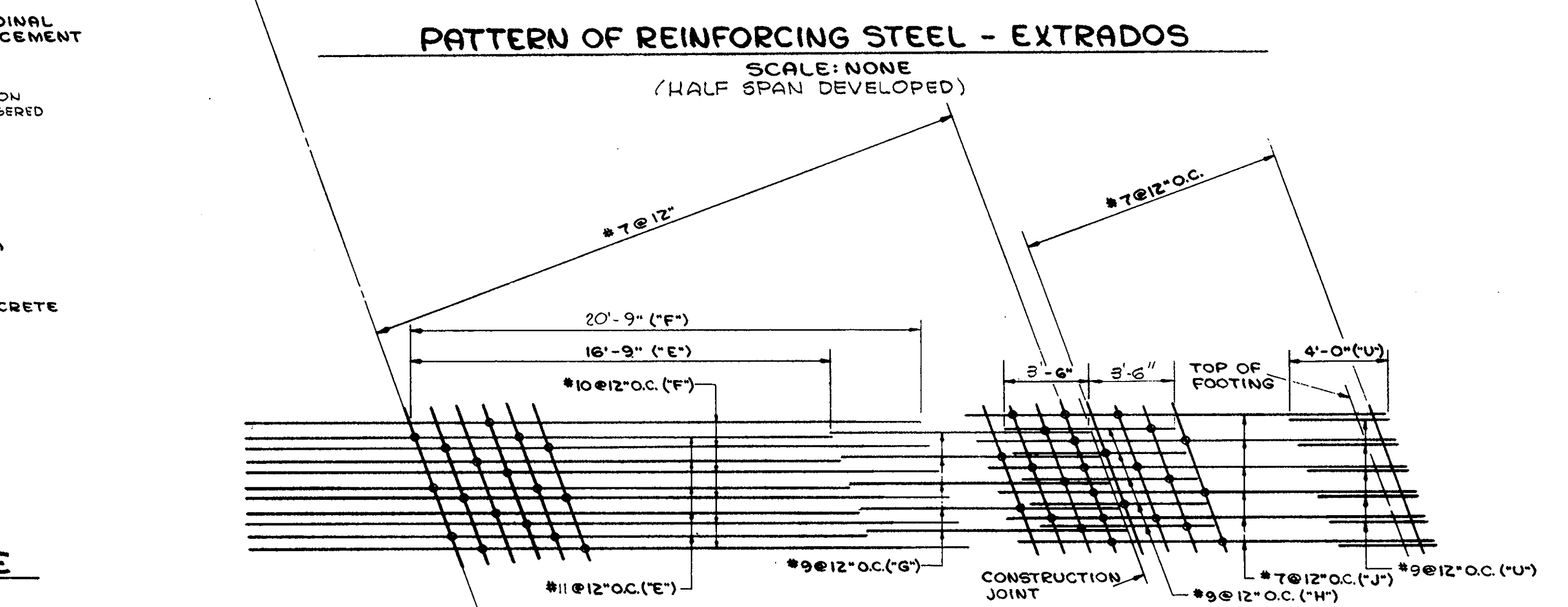
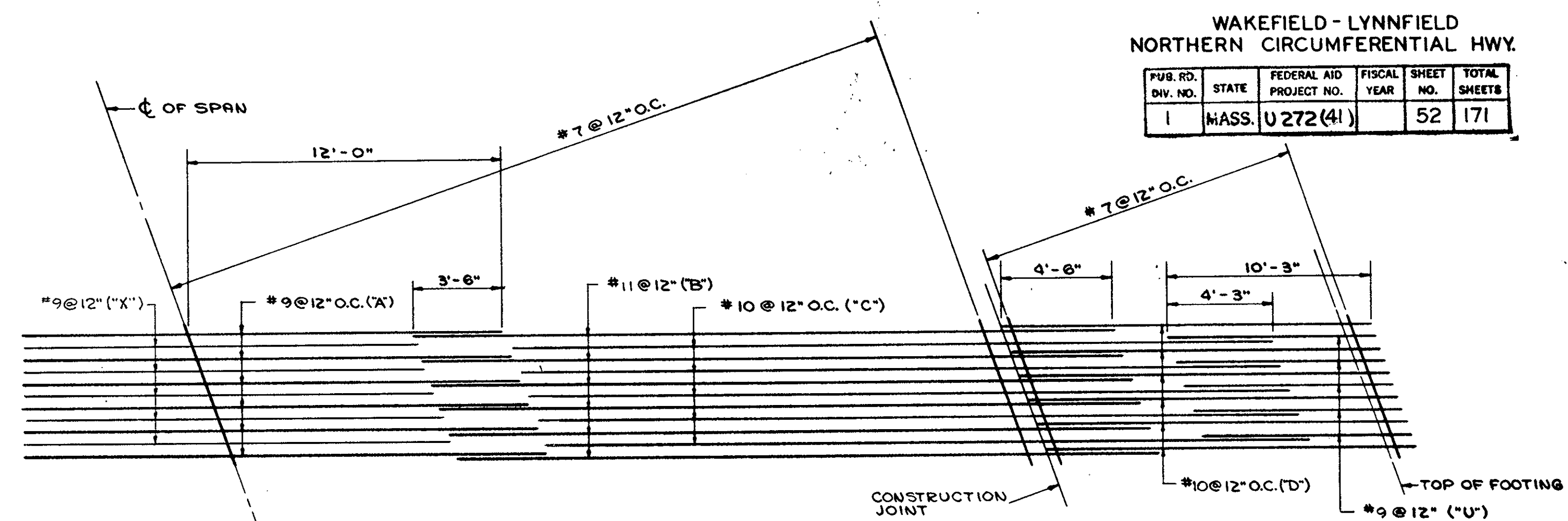
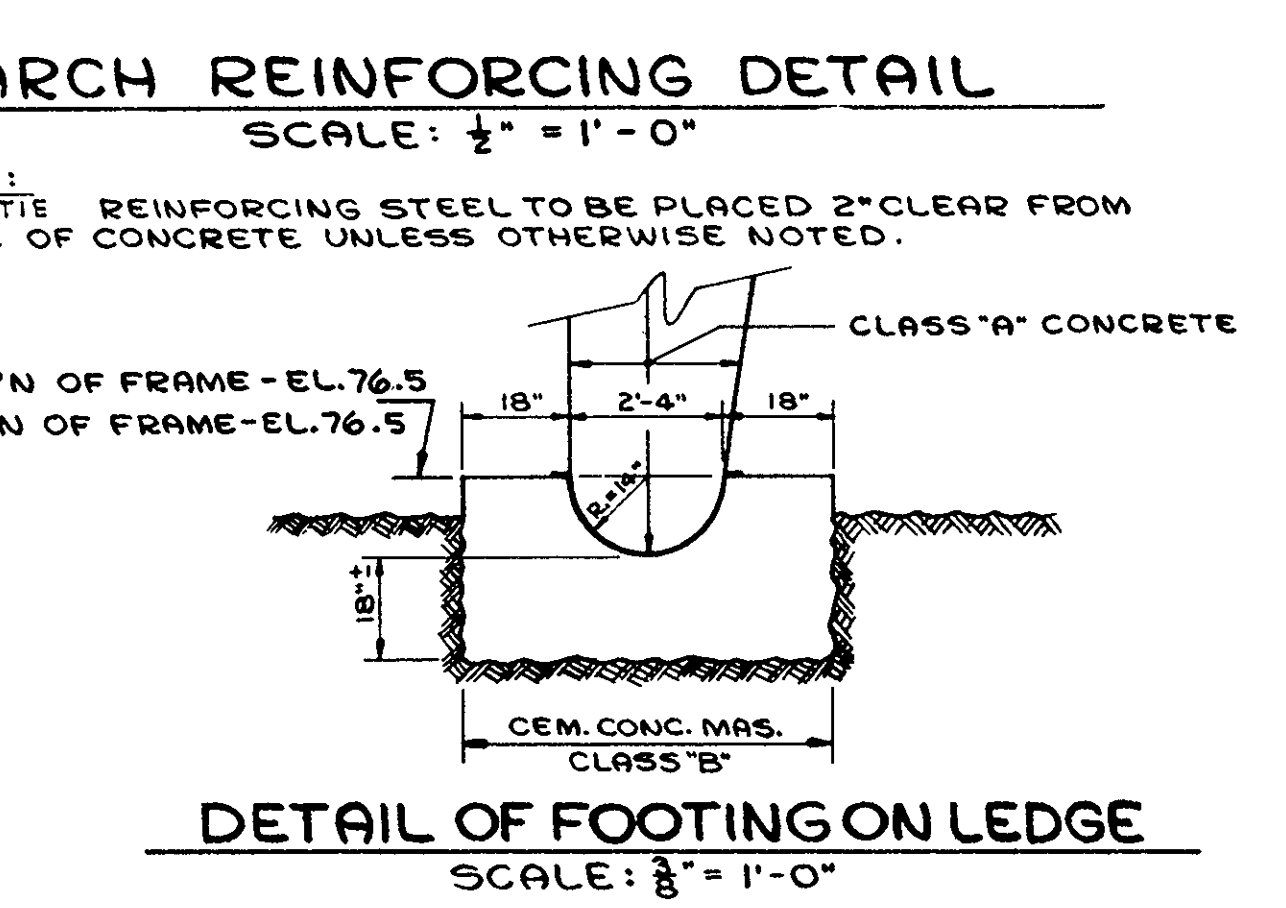
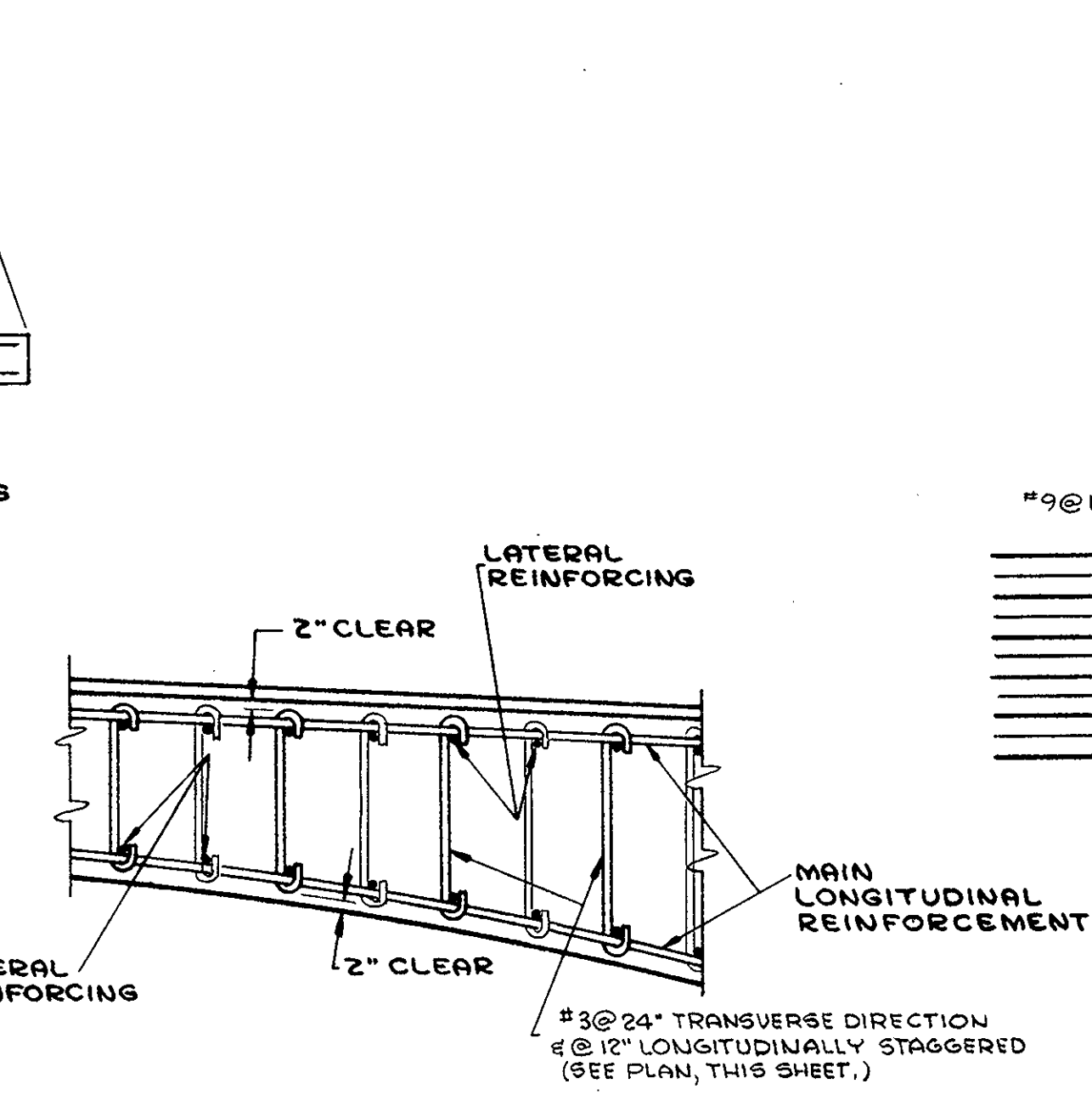
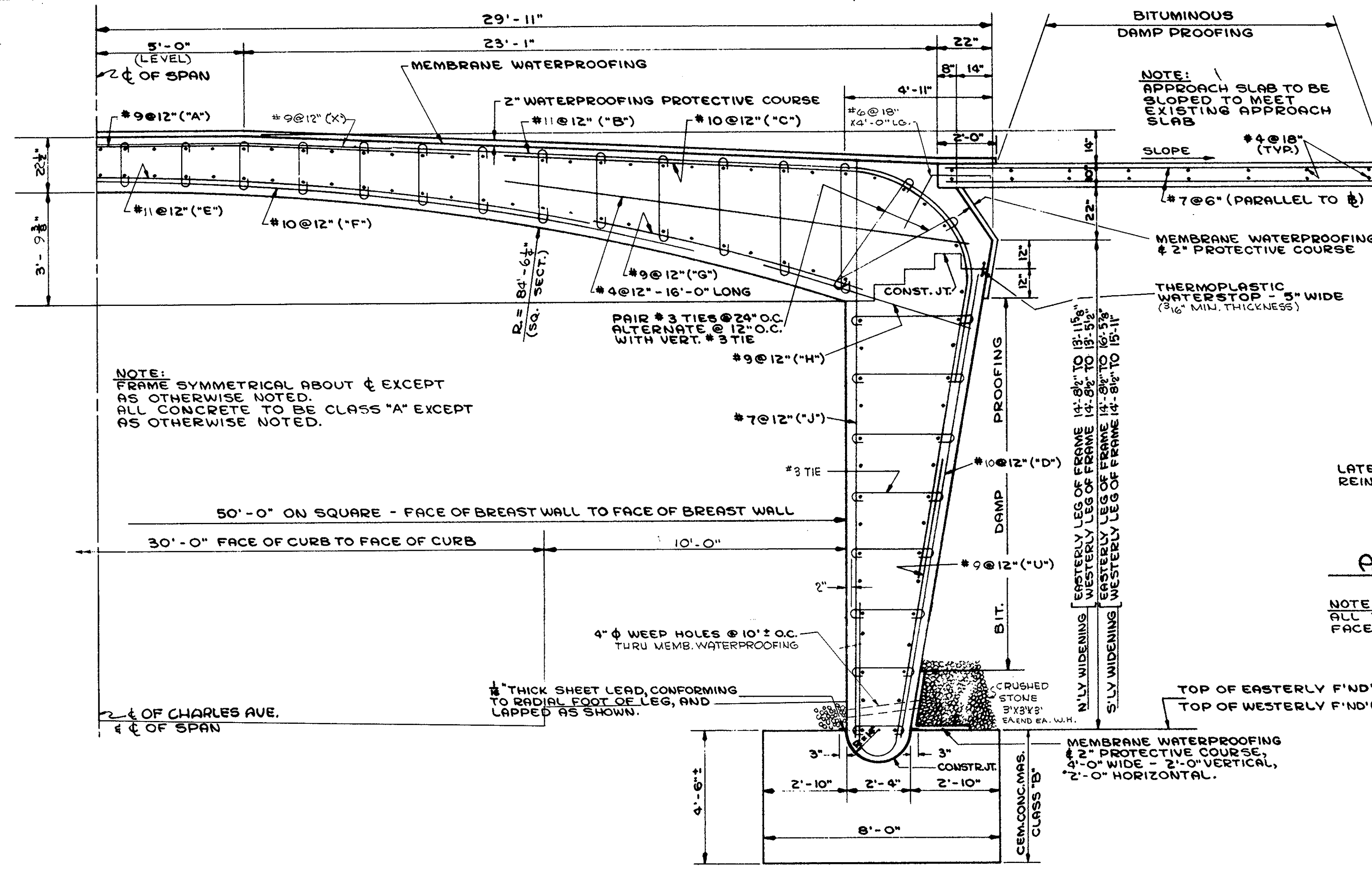
PROFILE - AUTO ROUTE 128
HOR. SCALE: 1" = 40'-0" VERT. SCALE: 1" = 8'-0"

[illegible]

PUB. RD. DIV. NO.	STATE	FEDERAL AID PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	MASS.	U272 (41)		51	171



PUB. RD. DIV. NO.	STATE	FEDERAL AID PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	MASS.	U 272(41)		52	171



- NOTE:**
- 1) ALL MATERIAL FOR RAILING TO BE STRUCTURAL GRADE STEEL.
 - 2) ALL POSTS TO BE PLUMB.
 - 3) PROVIDE 1/2" X 1 1/2" SLOTTED HOLES IN POST CAP PLATE & RAIL MOUNTING PLATES AT EXPANSION POST ONLY. FOR EXPANSION POST LOCATIONS SEE SHEET NO. 3
 - 4) PROVIDE 4" X 7/8" NEW GALV. ANCHOR BOLTS FOR EACH RAIL POST THAT IS TO BE REMOVED & RESET.
 - 5) TOP RAILS ARE TO BE CONTINUOUS OVER SINGLE POSTS OF NEW BRIDGE FENCE ON WING WALLS.

DATE	DESCRIPTION
FEB. 20, 1960	ISSUED FOR CONSTRUCTION
	USE ONLY PRINTS OF LATEST DATE

WAKEFIELD NORTHERN CIRCUMFERENTIAL HIGHWAY					
PUB. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
I	MASS.	F1-75-2(04)53		196	408

GENERAL NOTES

DESIGN:
In accordance with A.A.S.H.T.O. Specifications 1977 Edition with 1978 addenda for H20-44 Loading.

DIMENSIONS:

All dimensions and details shown for the existing structure shall be checked in the field by the contractor and adjustment shall be made for any discrepancies noted prior to the submission and approval of the shop drawings. For use as a guide, copies of the original bridge construction plans are available at the Mass. D.P.W. Bridge Section, 100 Nashua Street, Boston, Mass.

CHAMFER:

All exposed corners of new concrete shall be chamfered 3/4" x 3/4", unless otherwise shown.

REINFORCING:

All reinforcing steel shall conform to the requirements of ASTM A-615 Grade 60. Unless otherwise shown on plans, all #4 bars shall be lapped 20" and all #5 bars shall be lapped 26". For horizontal bars with 12" or more of concrete below the bar the lap lengths shall be 29" for #4 bars and 36" for #5 bars. If the above bars are spaced 6" or more on center, the lap length shall be 80% of the lap length given above. All other bars shall be lapped as shown on the plans.

ANCHOR BOLTS:

All anchor bolts are to be set by template and placed before the concrete is poured.

SCALES:

Scales noted on plans are not applicable to reduced size prints. Divide by 2 for 1/4 size prints. (11" x 18")

ANTI-SPALLING COMPOUND:

As shown on Plans

SUMMARY OF BRIDGE QUANTITIES

DESCRIPTION	QTY.	UNIT
REINFORCED CONC. EXCAVATION	8	C.Y.
CURB REMOVED AND STACKED	143	L.F.
PARAFFIN REMOVED AND STACKED	58	L.F.
CLASS A CEM. CONC. MASONRY	13	C.Y.
CLASS D CEM. CONC. MASONRY	40	C.Y.
STEEL REINF. FOR STRUCTURES	3,700	L.B.
DRILLING DOWEL HOLES	955	L.F.
LINSEED ANTI-SPALLING COMPOUND	150	S.Y.
EPOXY BONDING COMPOUND	800	S.F.
METAL BRIDGE RAILING (CLEAN & PAINT)	270	L.F.

OC 7-13, 1977 ISSUED FOR CONSTRUCTION

THE COMMONWEALTH OF MASSACHUSETTS

PROPOSED BRIDGE MODIFICATIONS

WAKEFIELD

ROUTE 128 OVER
CHARLES AVENUE

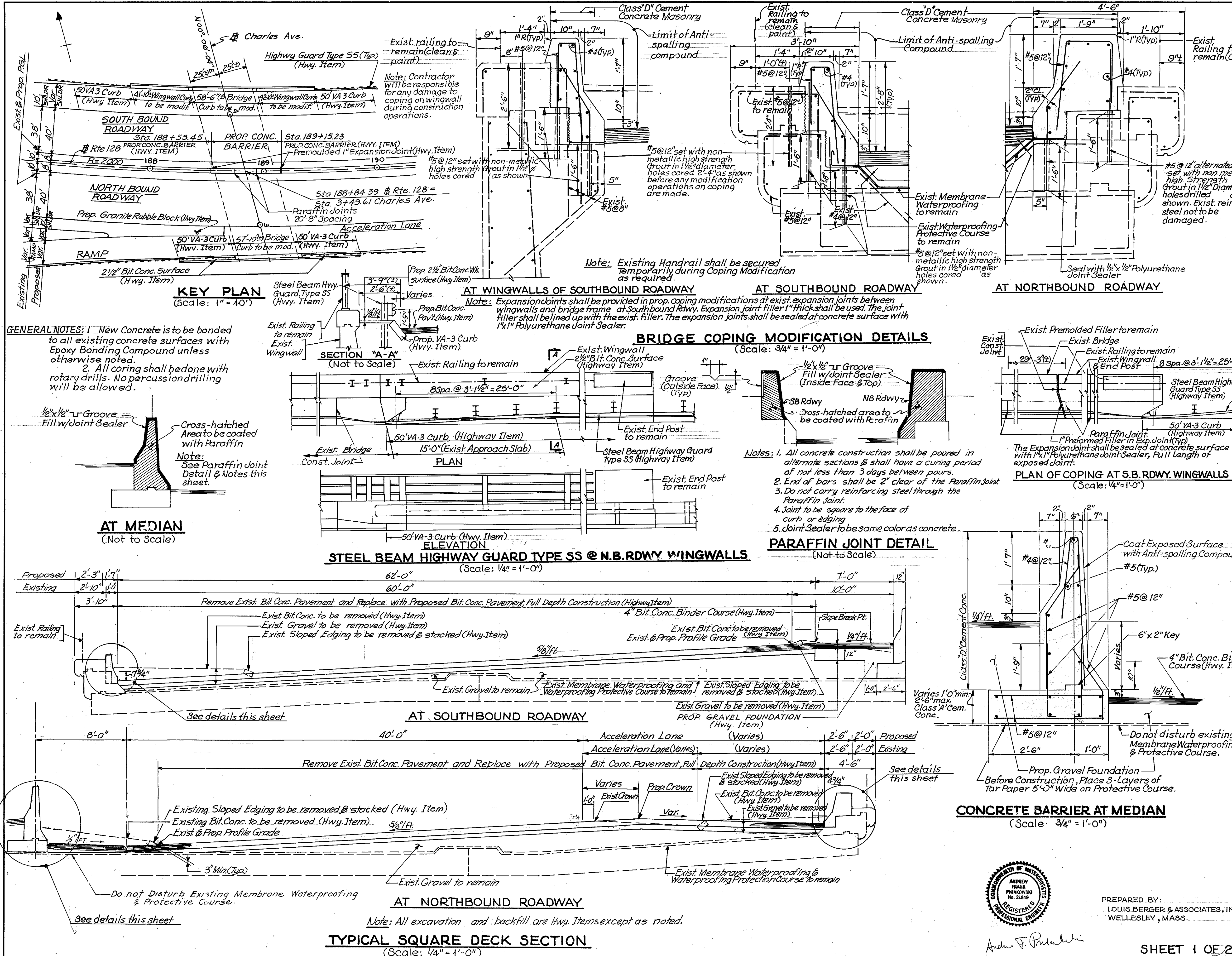
SCALES AS NOTED
OFFICE OF

DEPARTMENT OF PUBLIC WORKS
100 NASHUA ST., BOSTON, MASS.

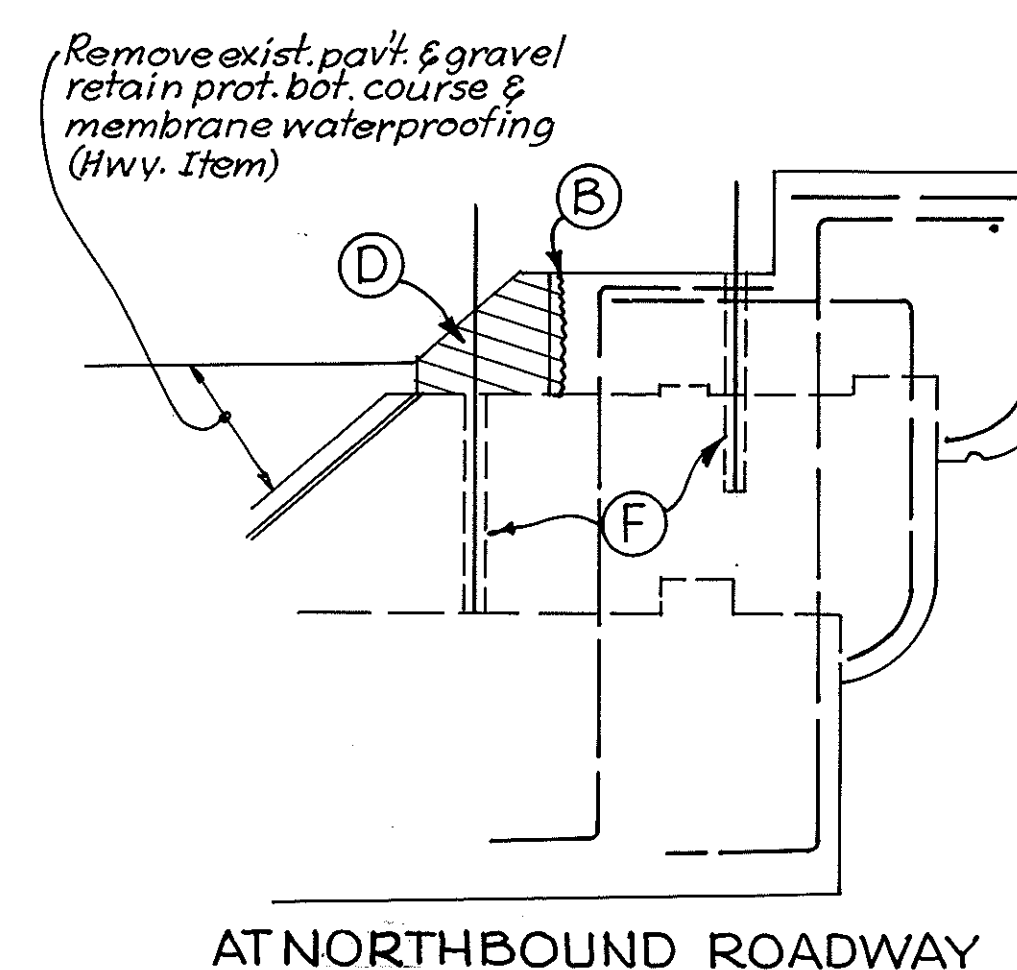
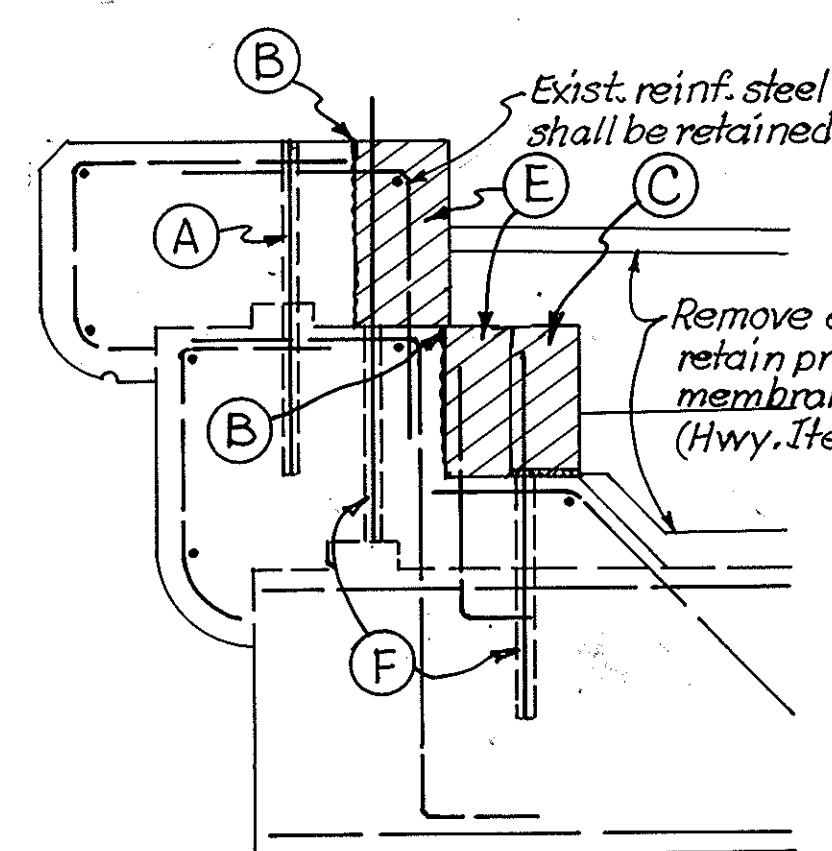
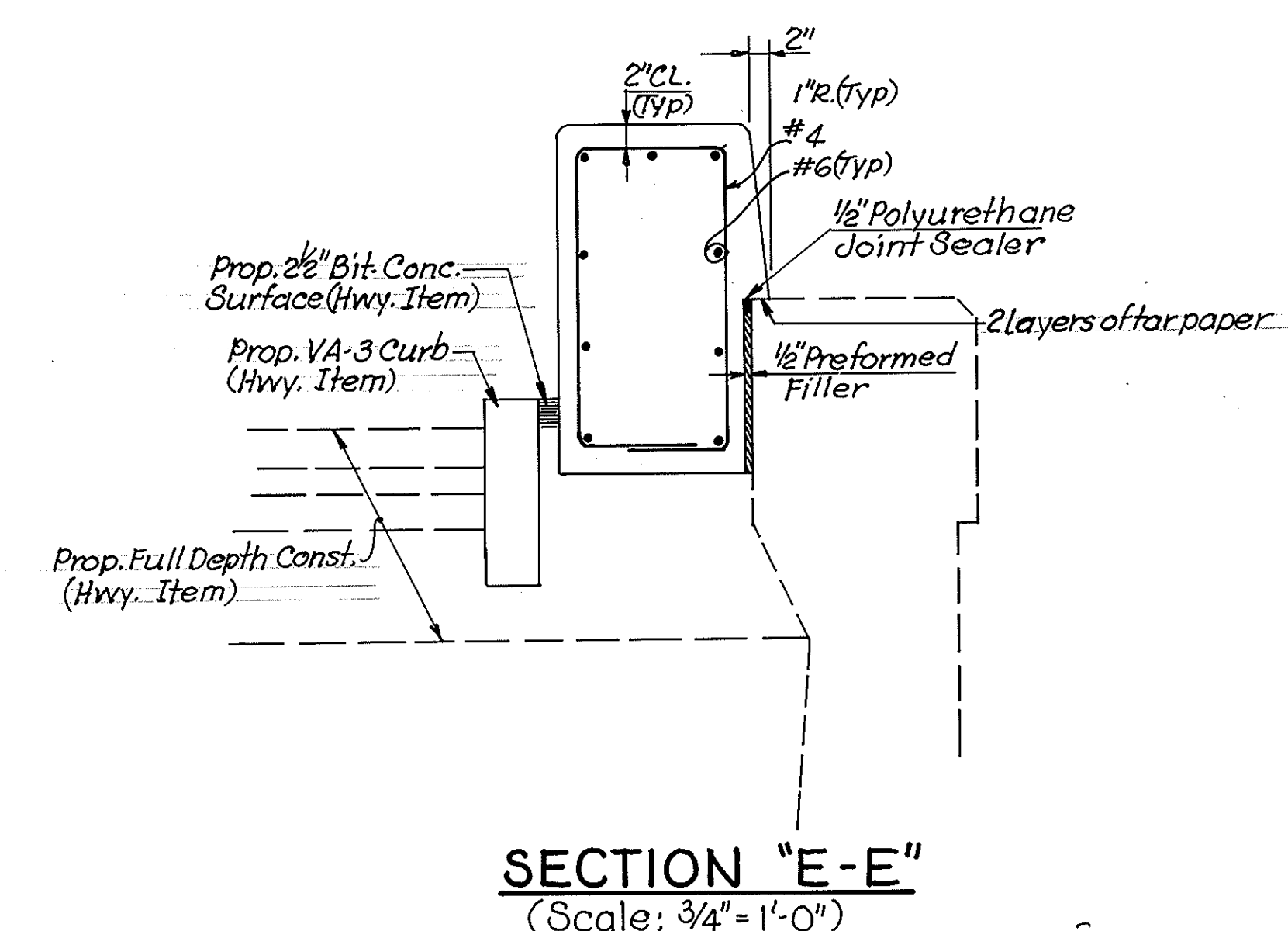
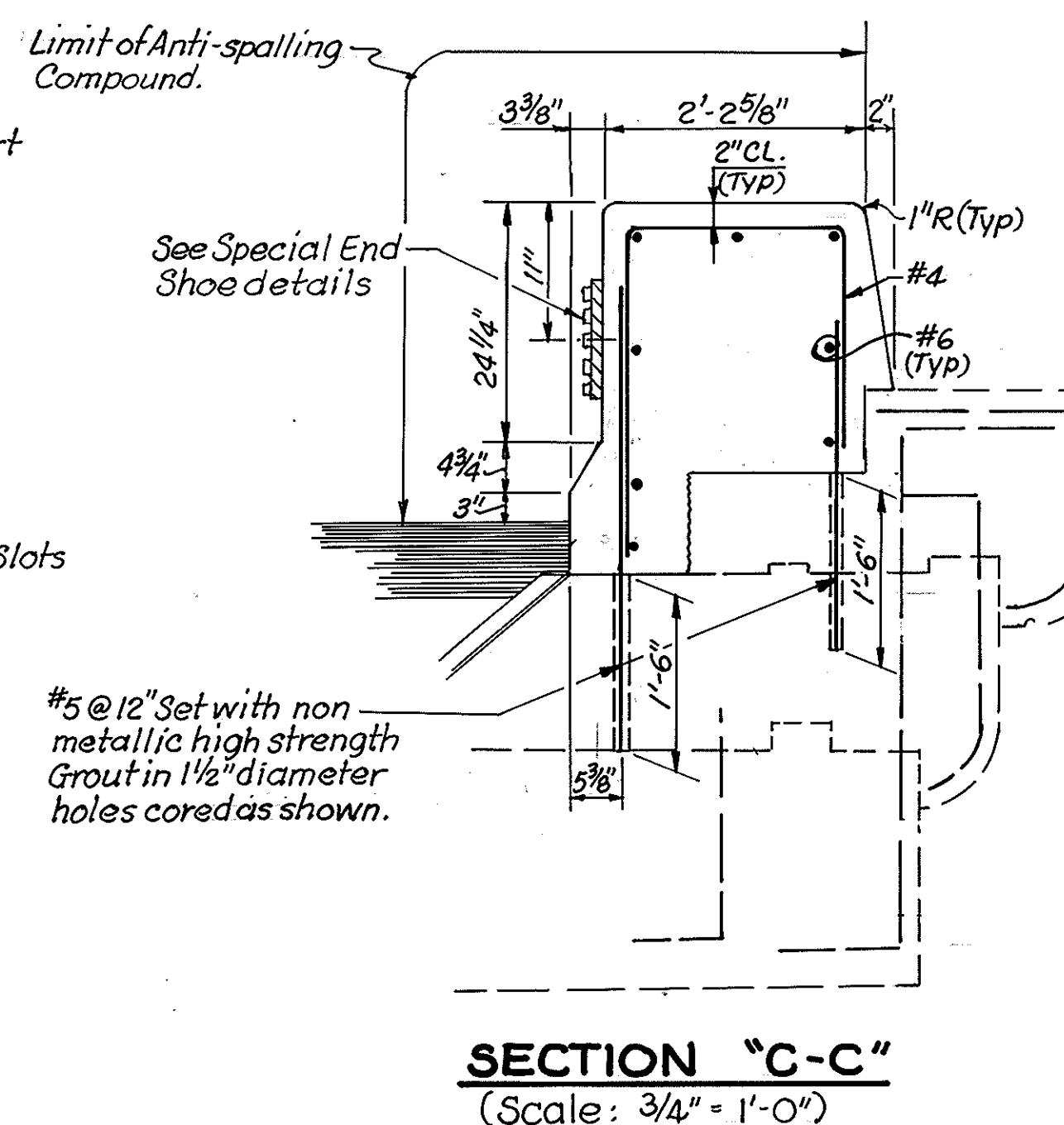
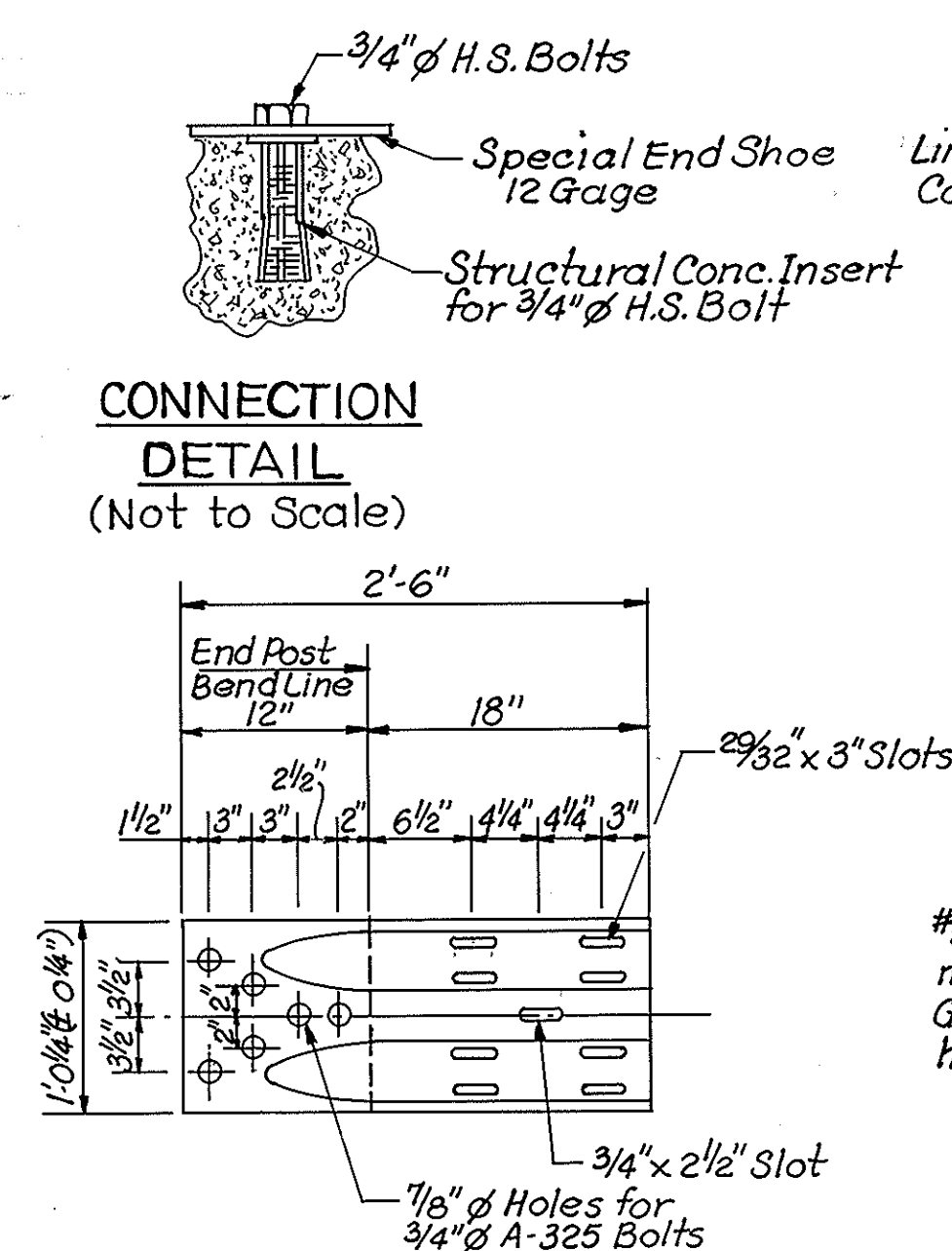
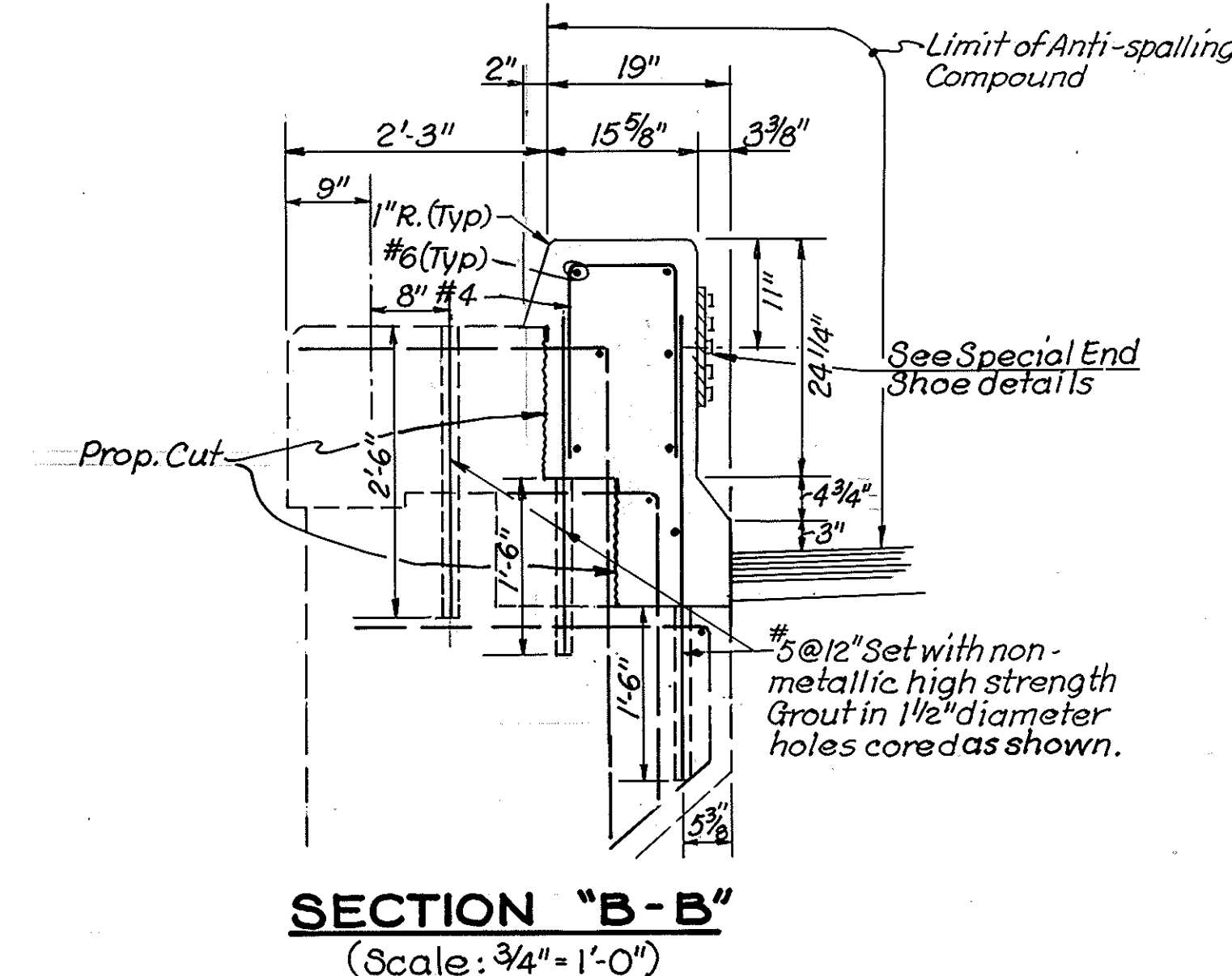
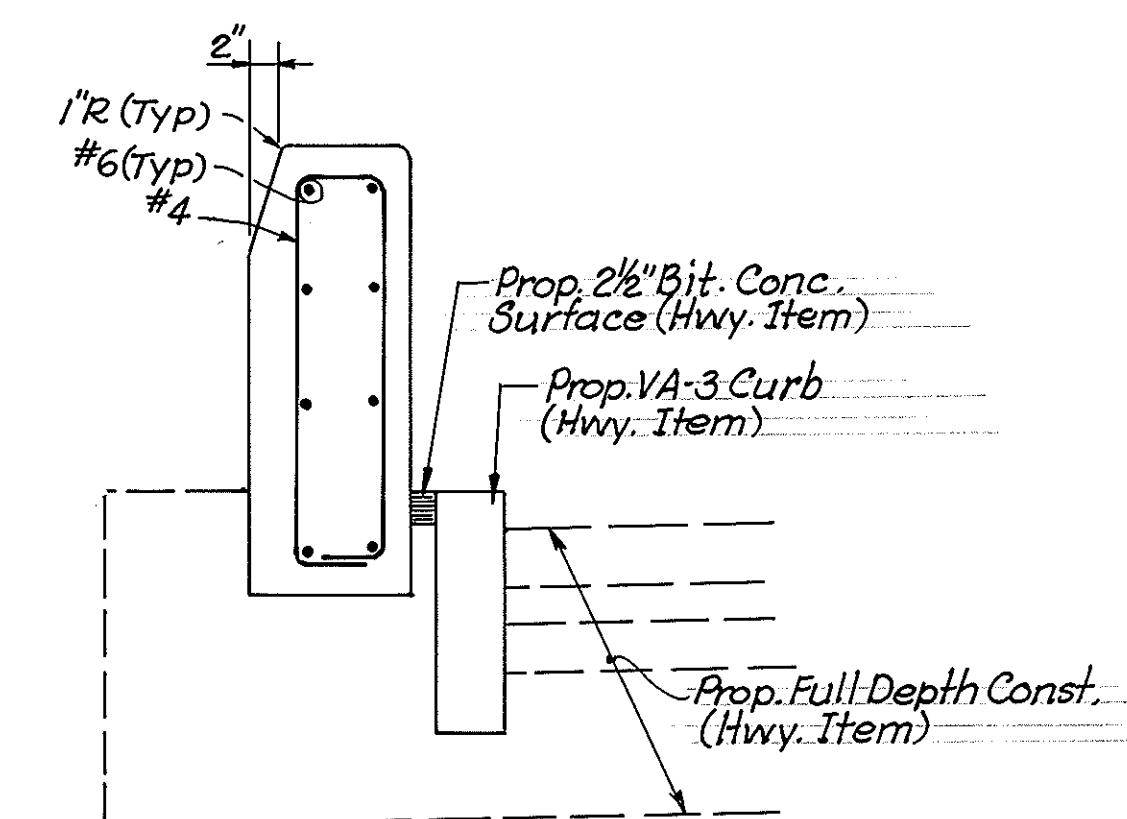
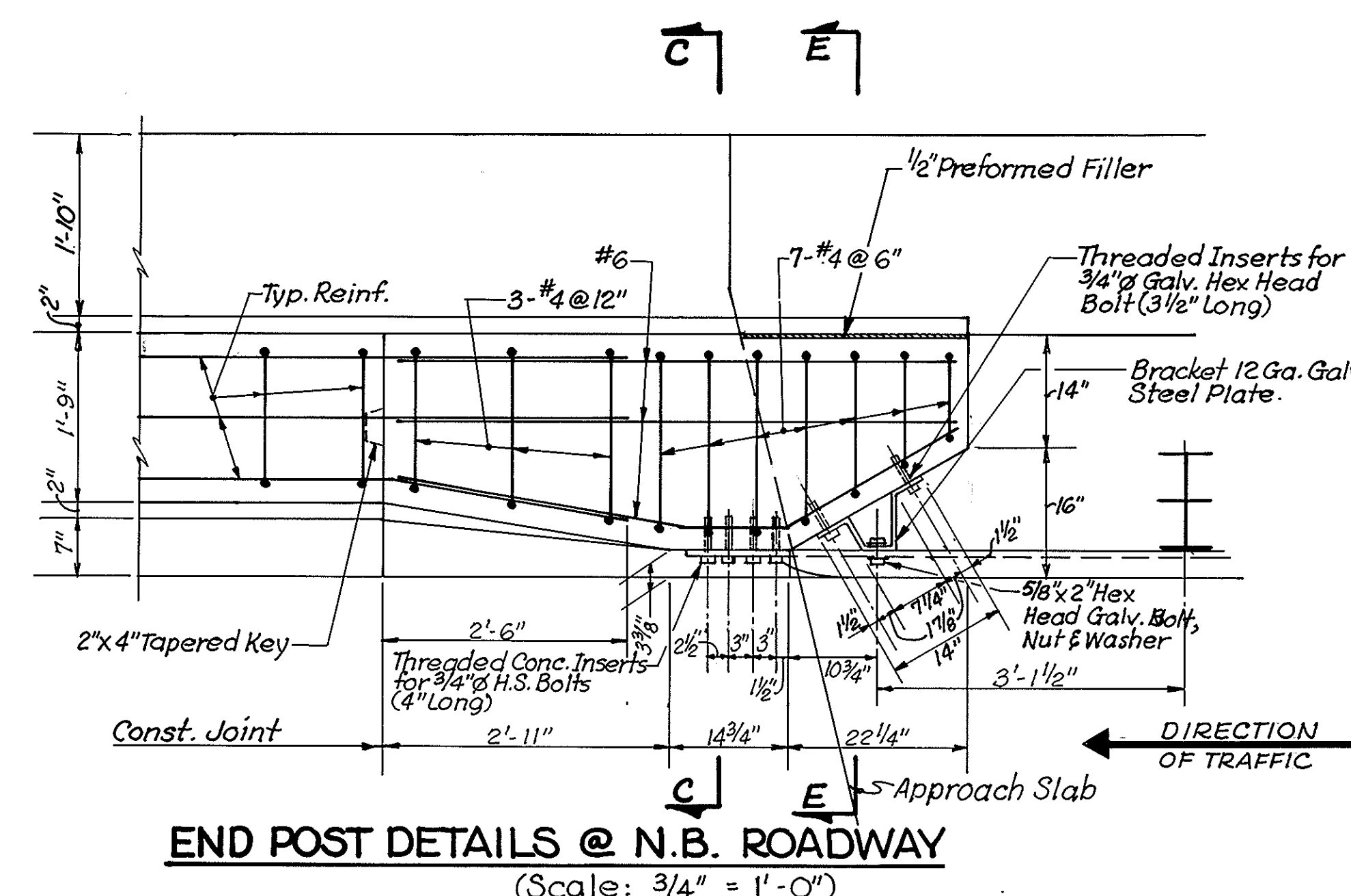
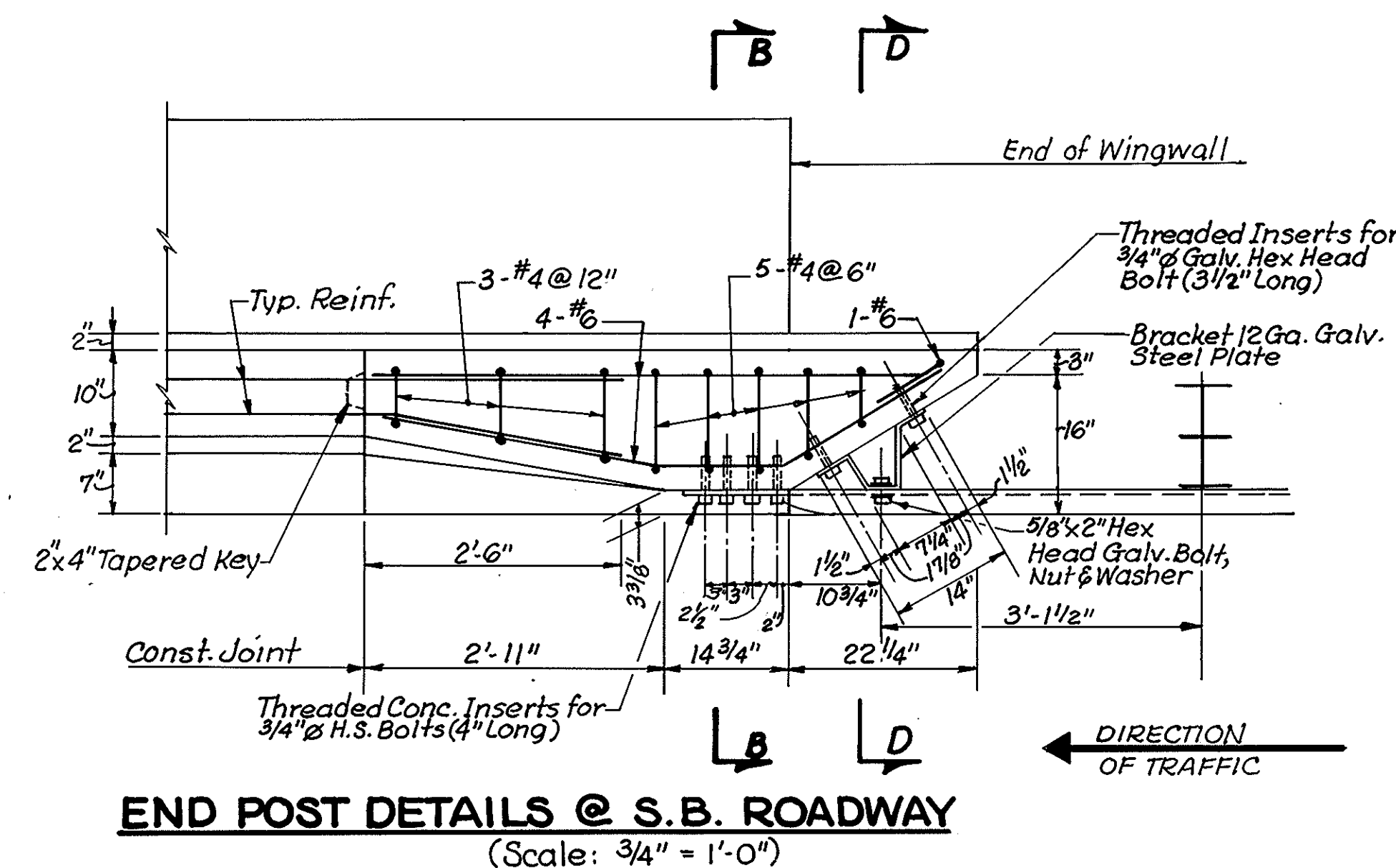
L. J. O'Neil P.E.
BRIDGE ENGINEER

William R. Rade P.E.
CHIEF ENGINEER

SHEET 1 OF 2 SHEETS BRIDGE NO. W-1-8



WAKEFIELD					
NORTHERN CIRCUMFERENTIAL HIGHWAY					
PUB. RD. DIV. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	MASS.	FR-95-2(061)53		197	408

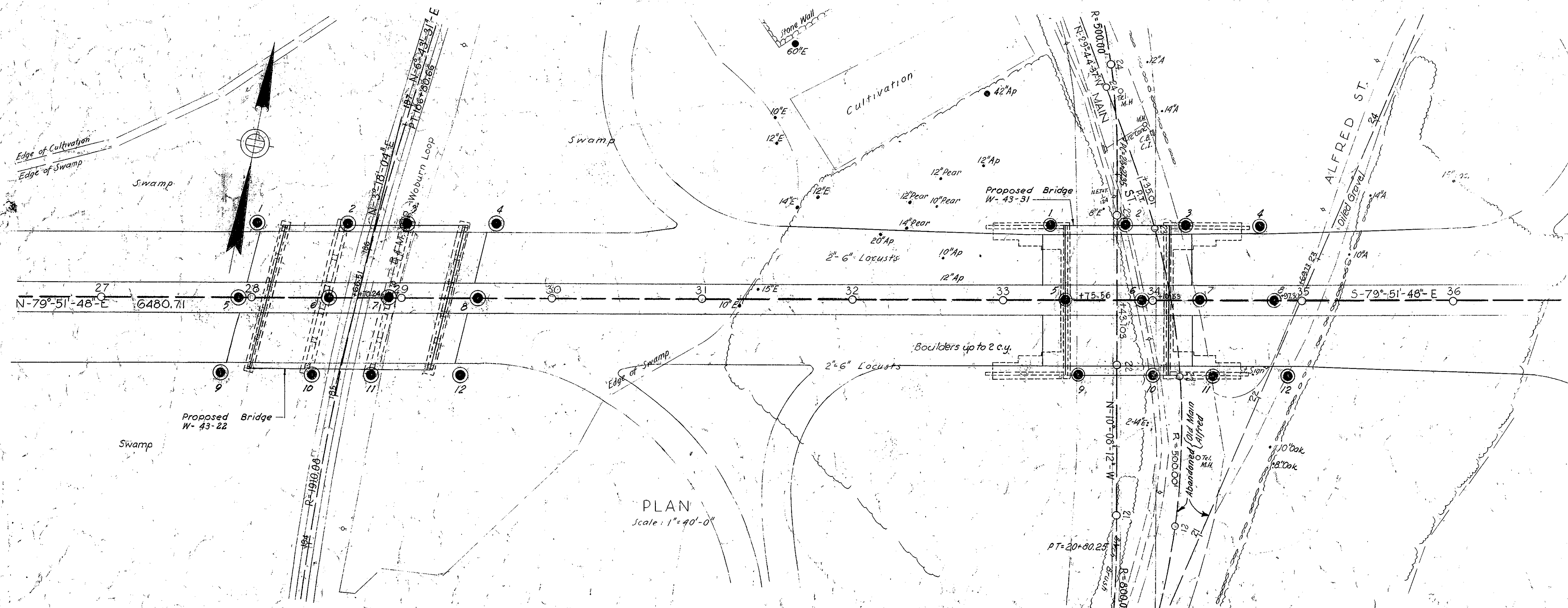


SEQUENCE OF CONSTRUCTION OPERATIONS

(Scale: 3/4" = 1'-0")

- Tie existing coping together with dowels in non-shrink grout.
- Saw cut 1" deep.
- Remove & stack existing VA-5 curb.
- Remove & stack existing SFA edging.
- Remove existing concrete.
- Core holes & insert tie dowels in non-shrink grout.

OCT. 13, 1979	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION
USE ONLY PRINTS OF LATEST DATE	



GENERAL NOTES (BRIDGE W-43-22)

FOUNDATION: May be altered if necessary to suit conditions of construction.

DATE & SEAL: To be located on inside face at southwesterly & northeasterly ends of fence. See detail on Sheet 5.

DESIGN: According to specifications of the American Association of State Highway Officials for H20-44 loading.

BENCHMARK: Sta. 186+80.66 R.R. & Rail Bound (P.I.) Elev. 98.53, Sea Level Datum of 1929.

GENERAL NOTES (BRIDGE W-43-31)

FOUNDATION: May be altered if necessary to suit conditions of construction.

DATE & SEAL: To be located on northwesterly & southeasterly face of frame. See detail on Sheet 5.

DESIGN: According to specifications of the American Association of State Highway Officials for H20-44 loading.

BENCHMARK: Sta. 186+80.66 R.R. & Rail Bound (P.I.) Elev. 98.53, Sea Level Datum of 1929.

ESTIMATED QUANTITIES (BRIDGE W-43-22) (NOT GUARANTEED)

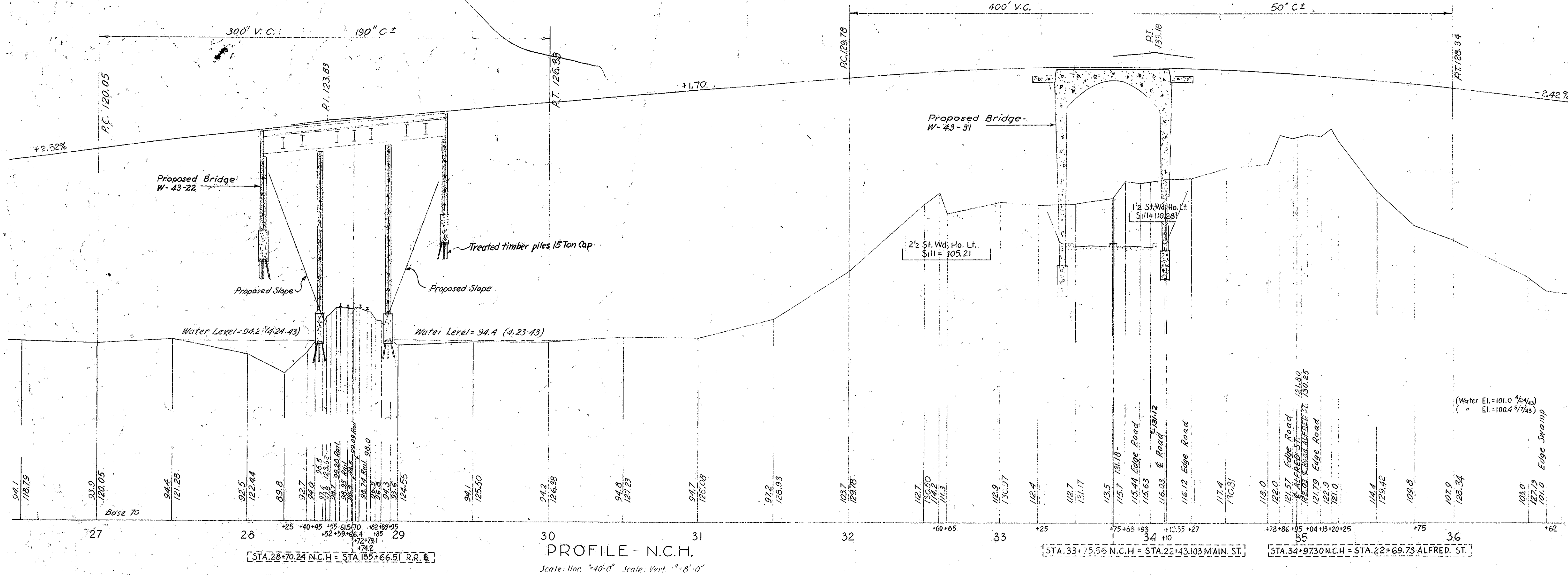
BRIDGE EXCAVATION	550	(1270)	CU. YDS.
GRAVEL BORROW	700	(250)	CU. YDS.
WROUGHT IRON BLAST PLATES (1/2")	1540	(16800)	POUNDS
CLASS I BIT. CONC. PAVEMENT (TYPE I-1)	150	(131)	TONS
CEM. CONC. MASONRY CLASS A	280	(350)	CU. YDS.
CEM. CONC. MASONRY CLASS B	1100	(365)	CU. YDS.
STEEL REIN. FOR STRUCTURES	16200	(34500)	POUNDS
STRUCTURAL STEEL	234200	(303550)	POUNDS
MEMBRANE WATERPROOFING (3 PLY)	1,200	(3)	SQ. YDS.
GRANITE EDGING TYPE SFA	260	(270)	LIN. FT.
GRANITE CURB TYPE VA STR. (6"X11")	255	(250)	LIN. FT.
TREATED TIMBER PILES	11466	(11700)	LIN. FT.
BITUMINOUS DAMP-PROOFING	1	(250)	SQ. YDS.

REVISED QUANTITIES 1-17-50

ESTIMATED QUANTITIES (BRIDGE W-43-31) (NOT GUARANTEED)

BRIDGE EXCAVATION	1200	(2550)	CU. YD.
CLASS B ROCK EXCAVATION	750	(305)	CU. YD.
GRAVEL BORROW	730	(320)	CU. YD.
CEM. CONC. MASONRY CLASS A	1640	(3550)	CU. YD.
CEM. CONC. MASONRY CLASS B	1670	(183)	CU. YD.
STEEL REIN. FOR STRUCTURES	1	(233,500)	POUNDS
MEMBRANE WATERPROOFING	1740	(700)	SQ. YD.
BITUMINOUS DAMP-PROOFING	1	(350)	SQ. YD.
METAL BRIDGE RAILING	323	(324)	LIN. F.
GRANITE CURB TYPE VA (6"X11") STR.	330	(324)	LIN. F.
CLASS I BIT. CONC. PAVEMENT (TYPE I-1)	190	(77)	TONS
STONE FACING	2876	(12180)	SG. F.
GRANITE EDGING TYPE SFA	150	(144)	LIN. F.
STEEL GRID FLOORING	190	(816)	SQ. F.
STRUCTURAL STEEL	16000	(11900)	POUNDS

REVISED QUANTITIES 1-17-50



FOR BRIDGE WIDENING

See 1961 Plans

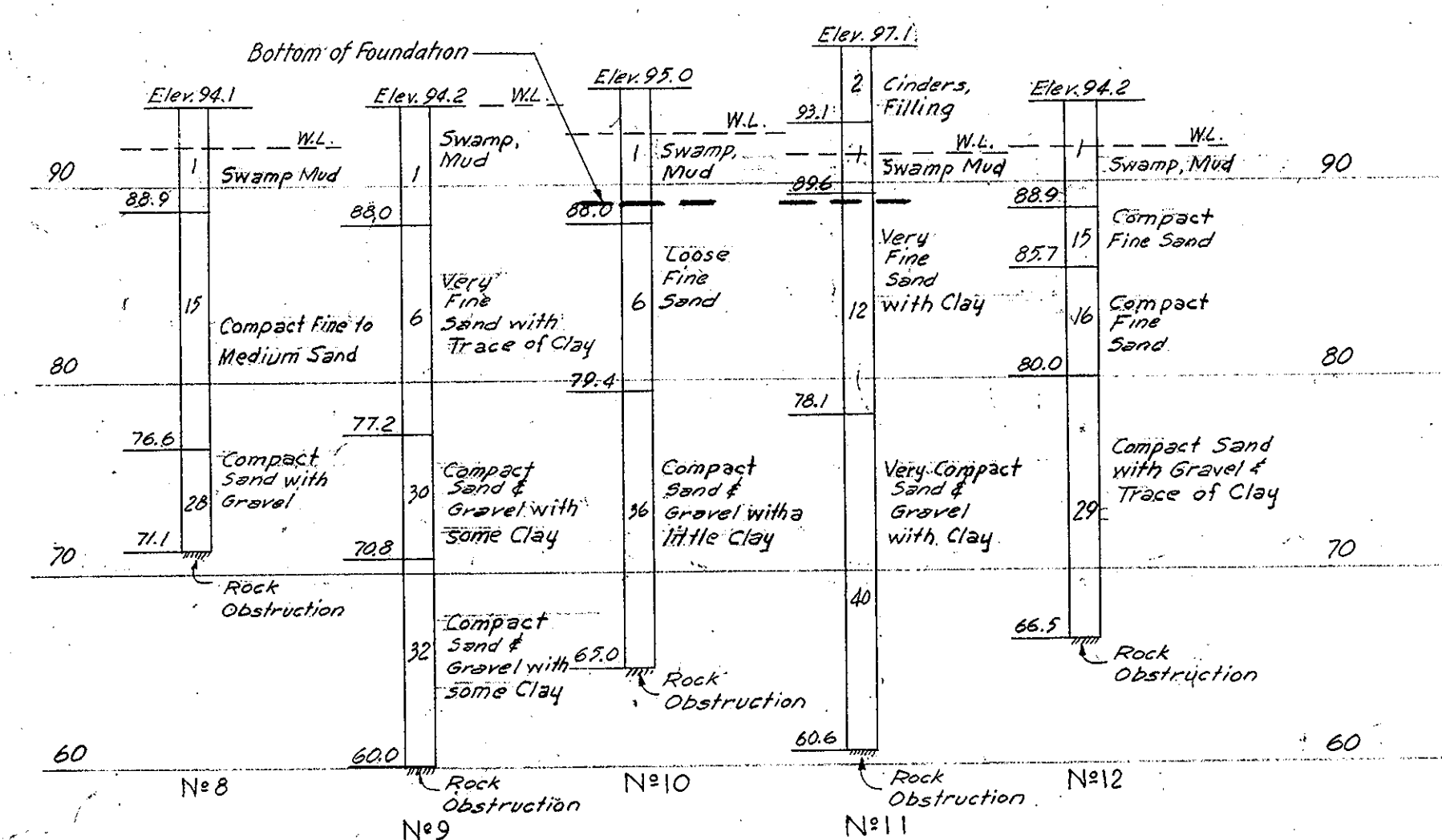
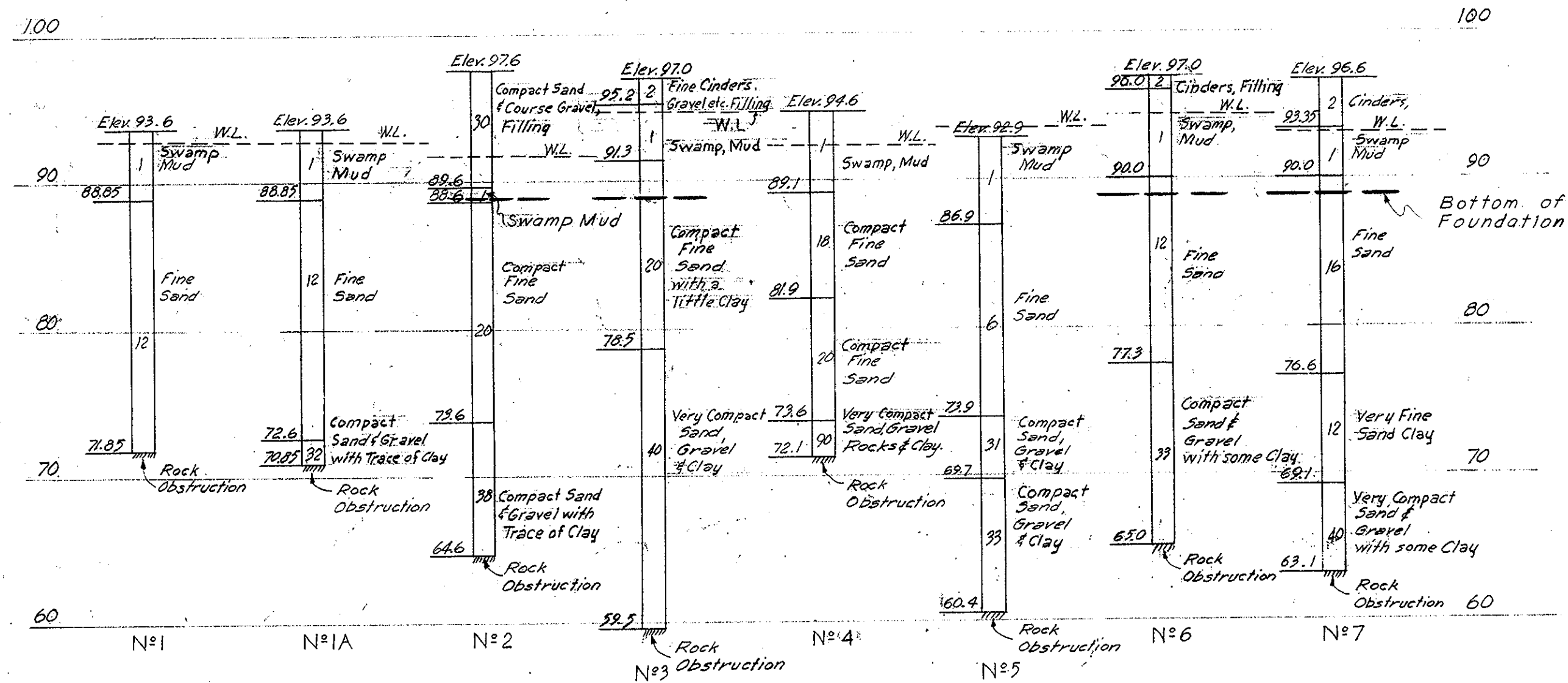
THOMAS WORCESTER, INC.
CONSULTING ENG.
84 STATE ST., BOSTON, MASS.

1-17-50	SHEET 3	STATIONS OF BEARINGS E. ABUT. CHANGED
1-17-50	SHEET 1	ESTIMATED QUANTITIES REVISED
DATE	SHEET NO.	DESCRIPTION
ADVERTISING 12/3/49	CONSTRUCTION 12/3/49	

THE COMMONWEALTH OF MASSACHUSETTS
PROPOSED BRIDGE
NORTHERN
CIRCUMFERENTIAL HIGHWAY
OVER MAIN ST.-WOBURN STA. 33+75.56
OVER B&M.R.R.-WOBURN LOOP STA. 28+02.6
SCALES AS NOTED
OFFICE OF
DEPARTMENT OF PUBLIC WORKS
100 NASHUA ST., BOSTON, MASS.
NOV. 1949

DESIGNED BY: *D.O. Hofford*
BRIDGE ENGINEER
TRACED BY: *D.O. Hofford*
CHECKED BY: *D.O. Hofford*
CHIEF ENGINEER

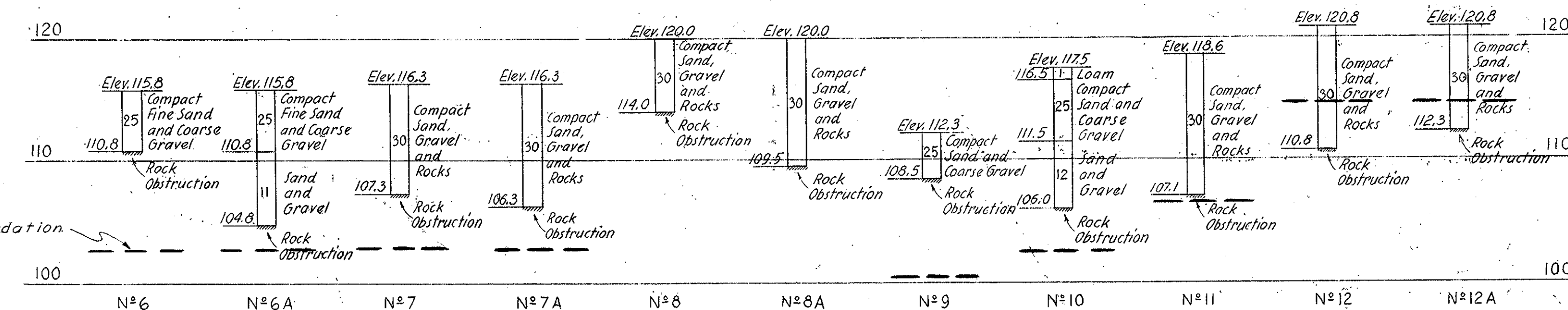
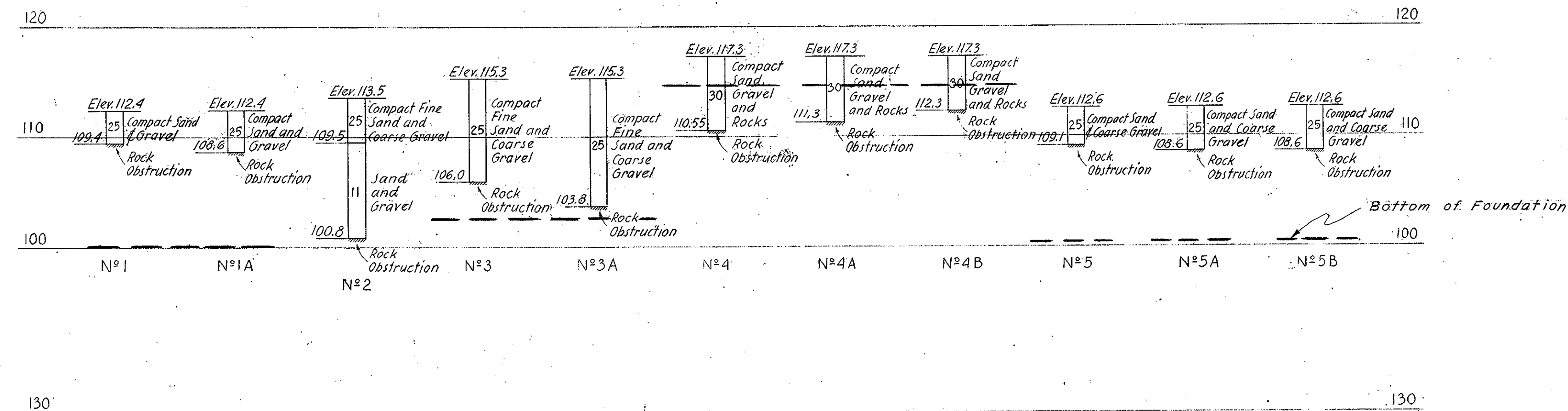
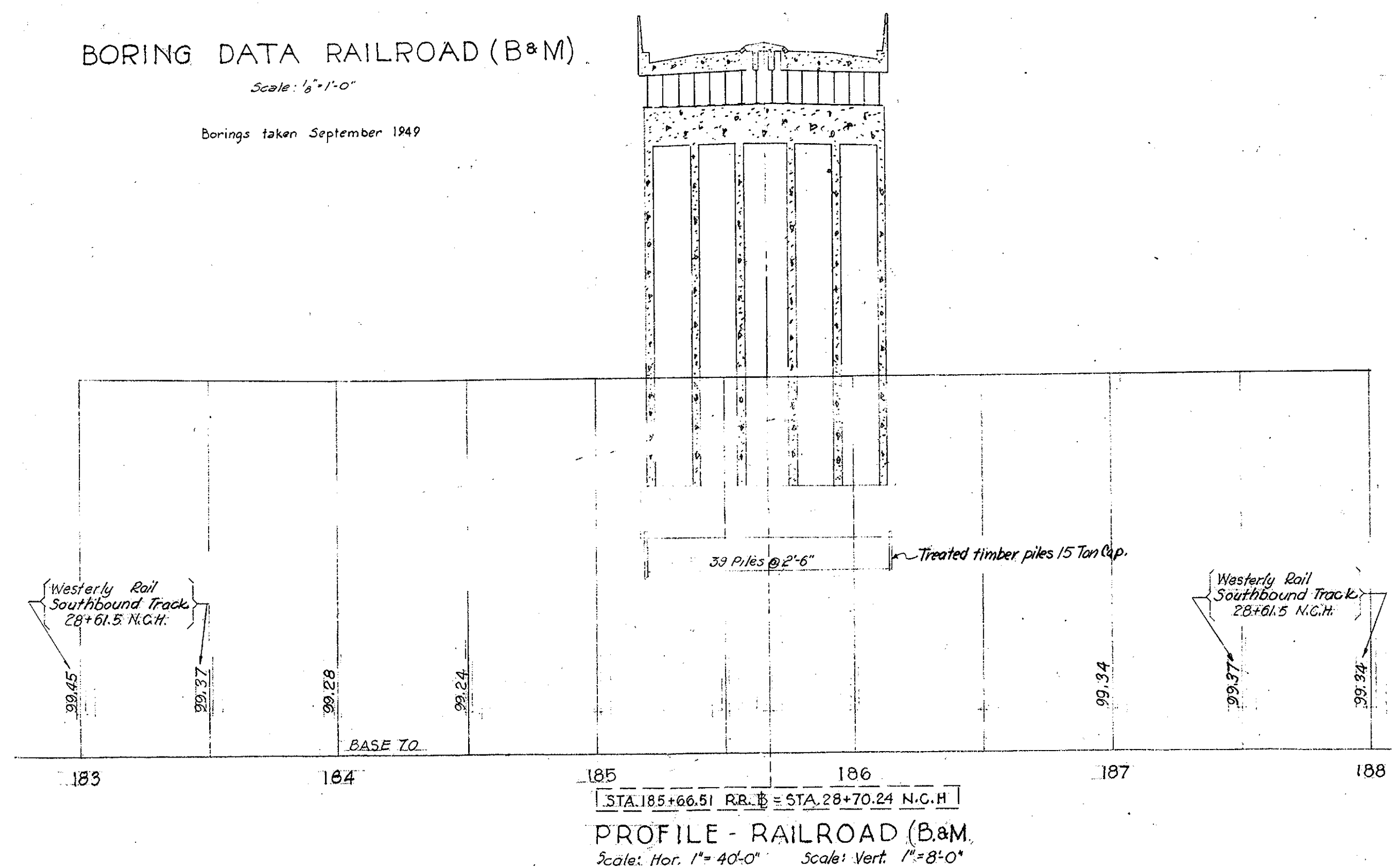
SHEET 1 OF 8 SHEETS BRIDGE NO. W-43-22



BORING DATA RAILROAD (B.M.)

Scale: 1"=1'-0"

Borings taken September 1949



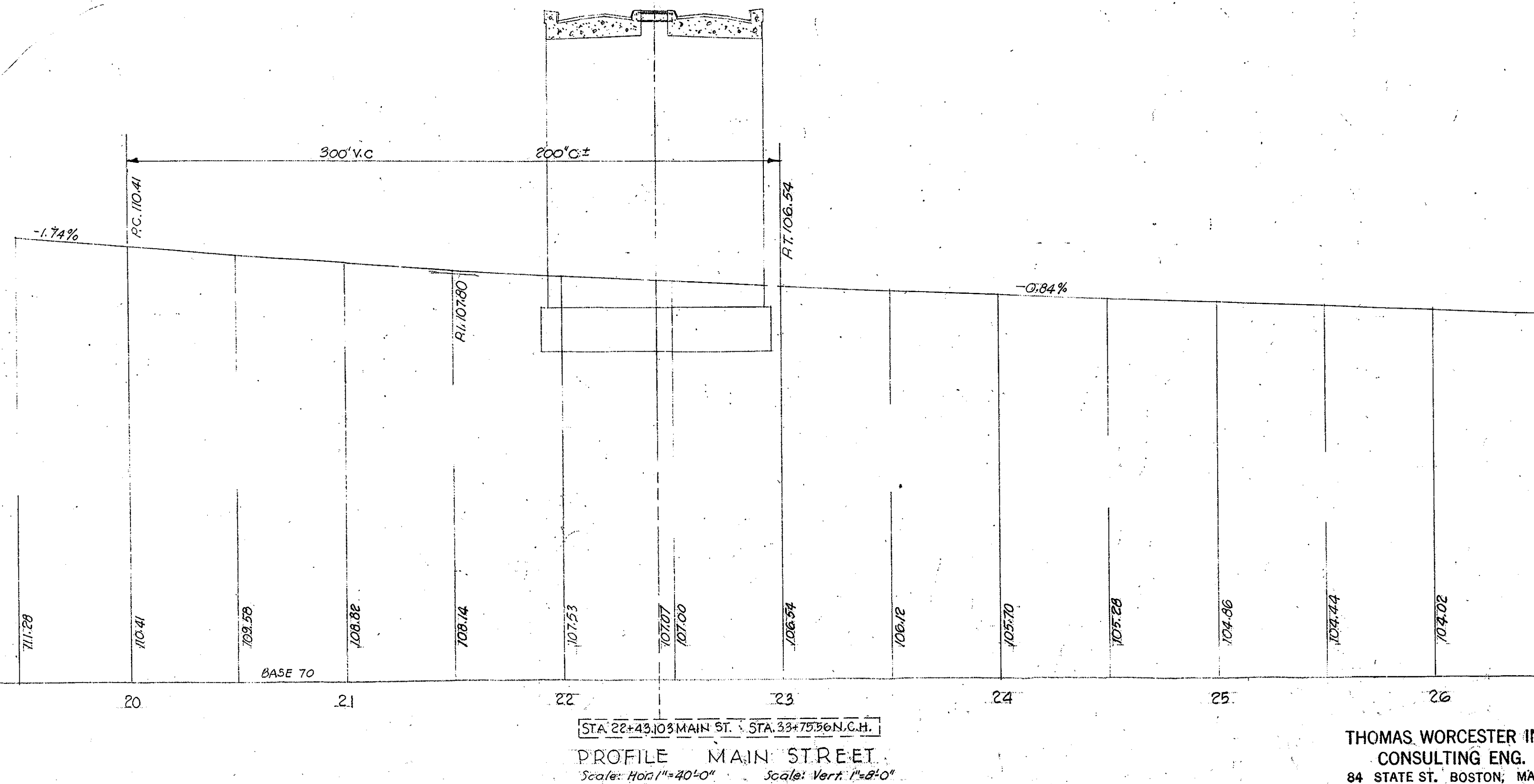
BORING DATA MAIN STREET

Scale: 1"=1'-0"

Borings taken September 1949

BORING NOTES

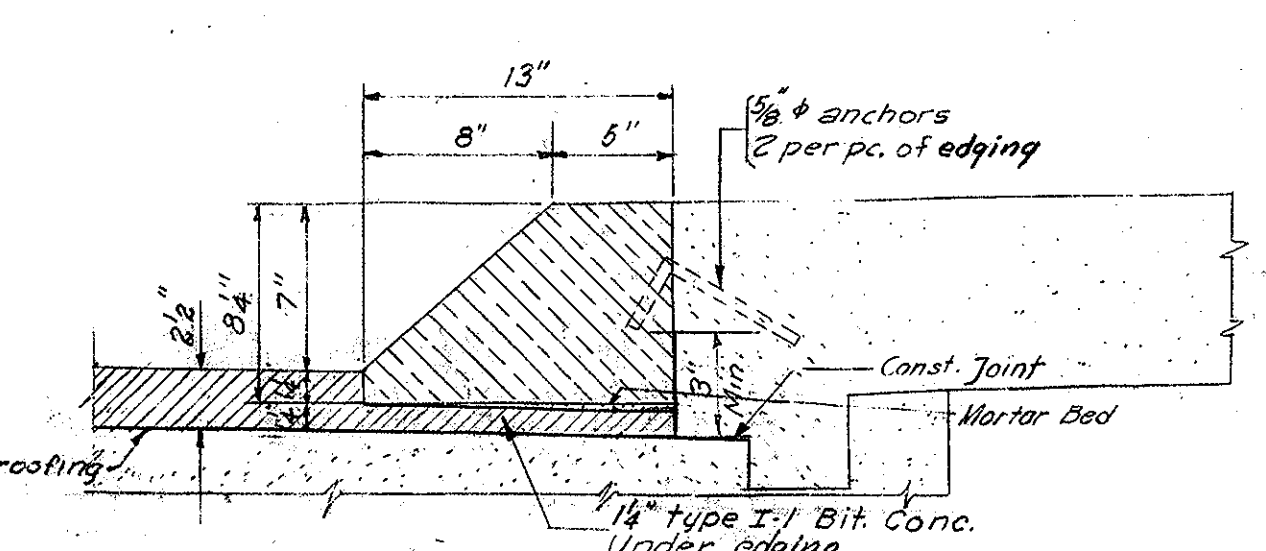
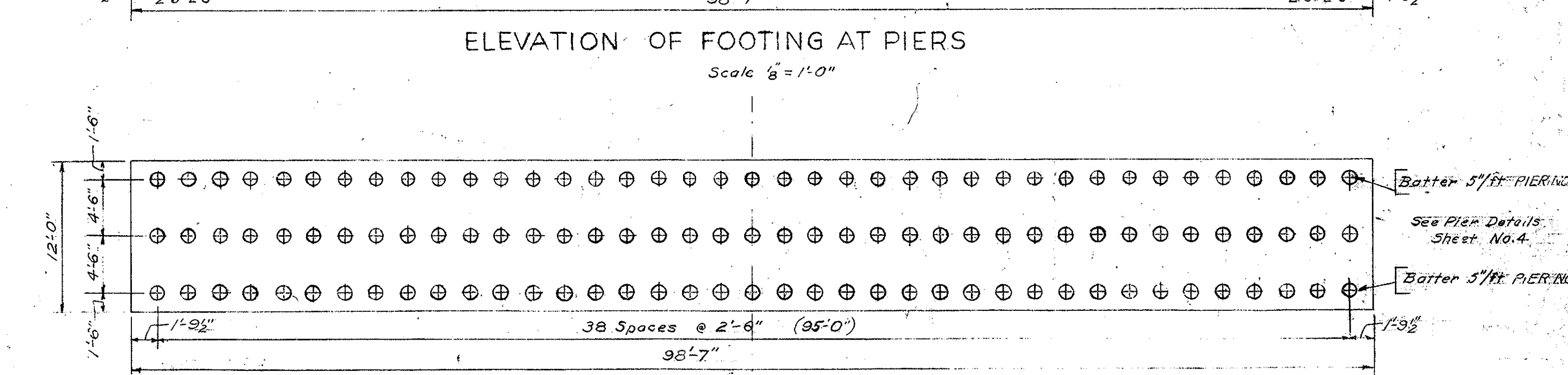
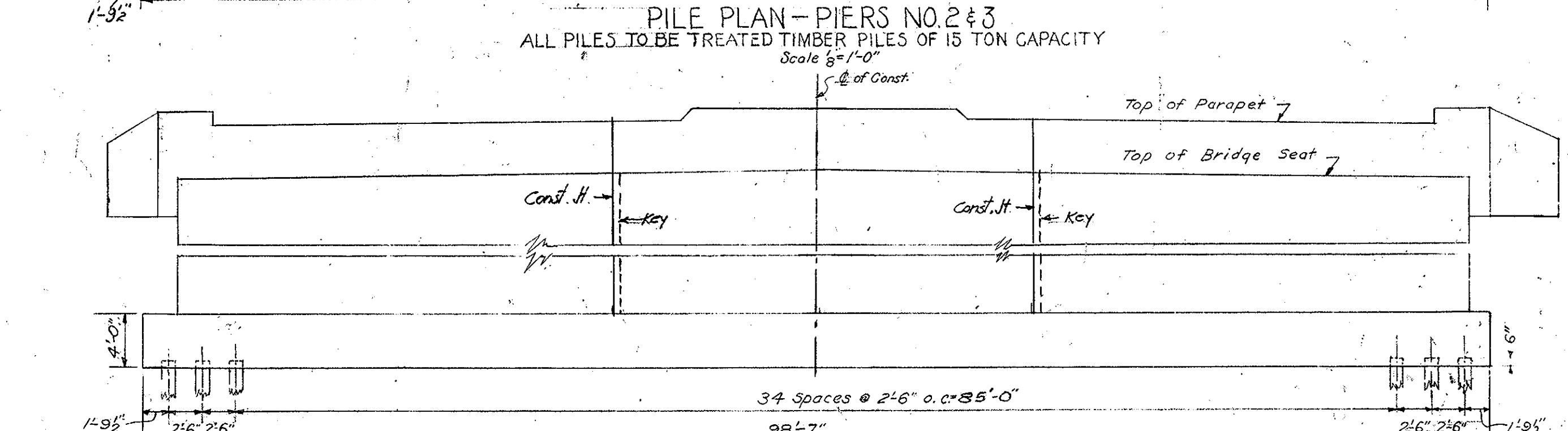
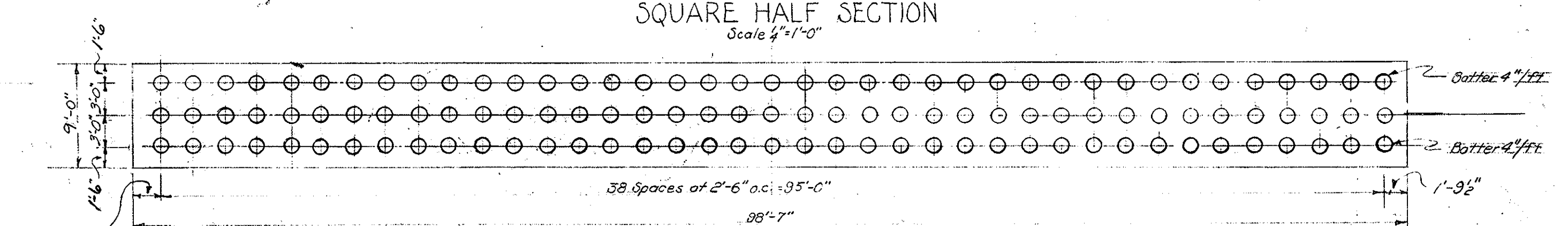
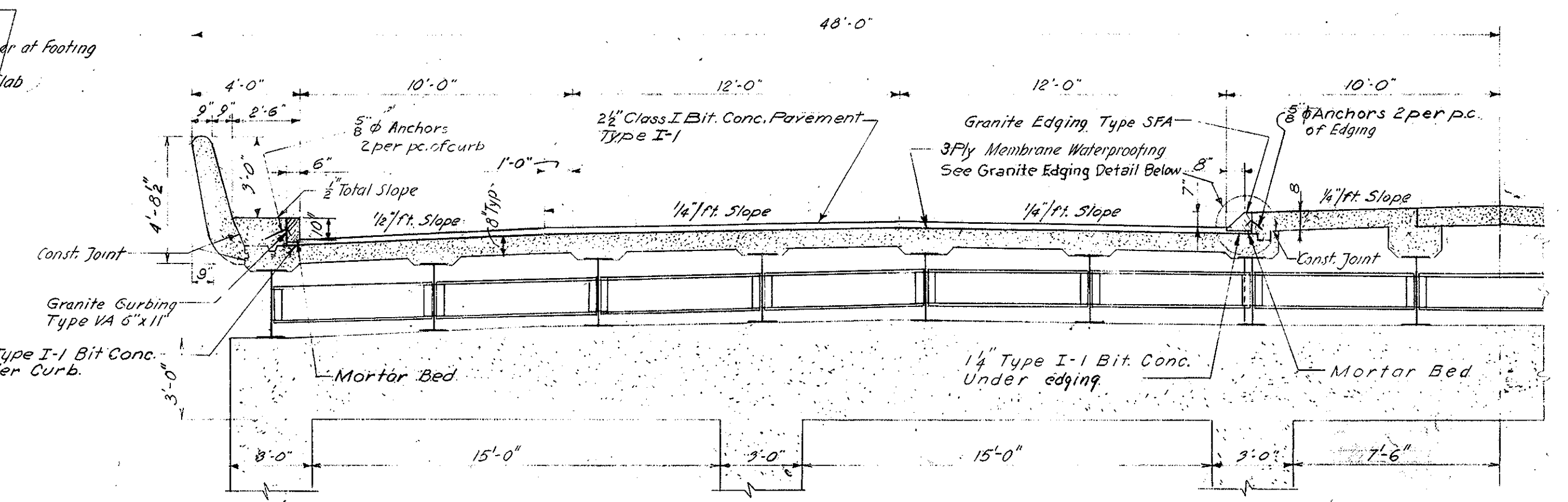
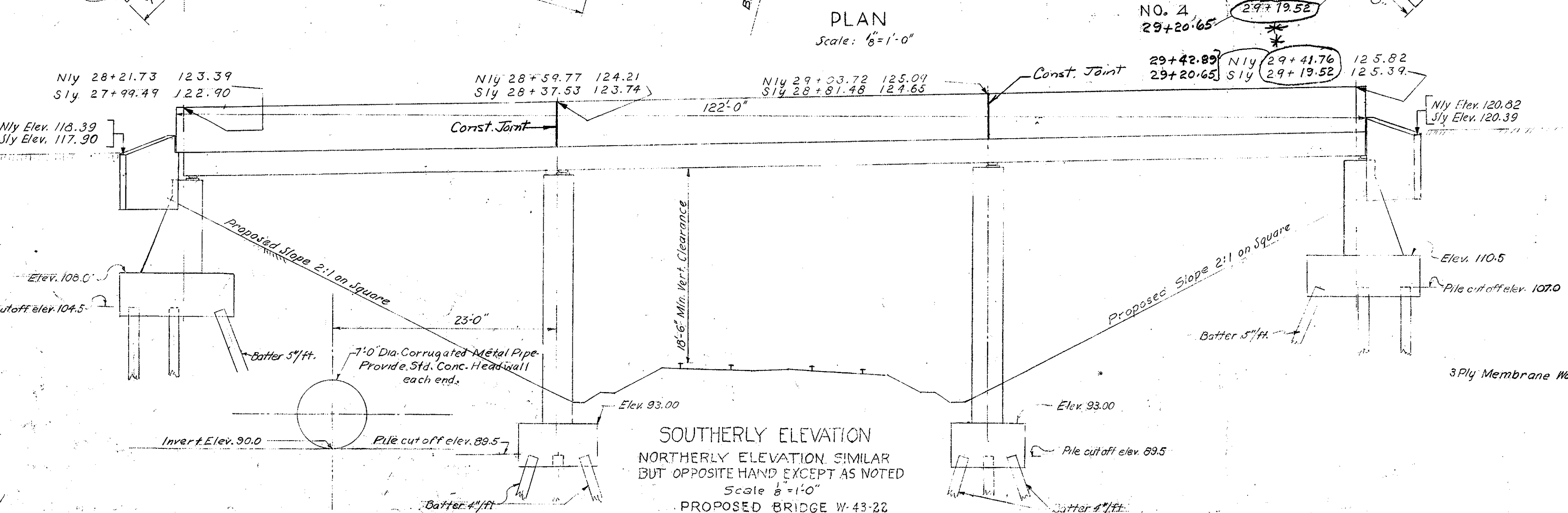
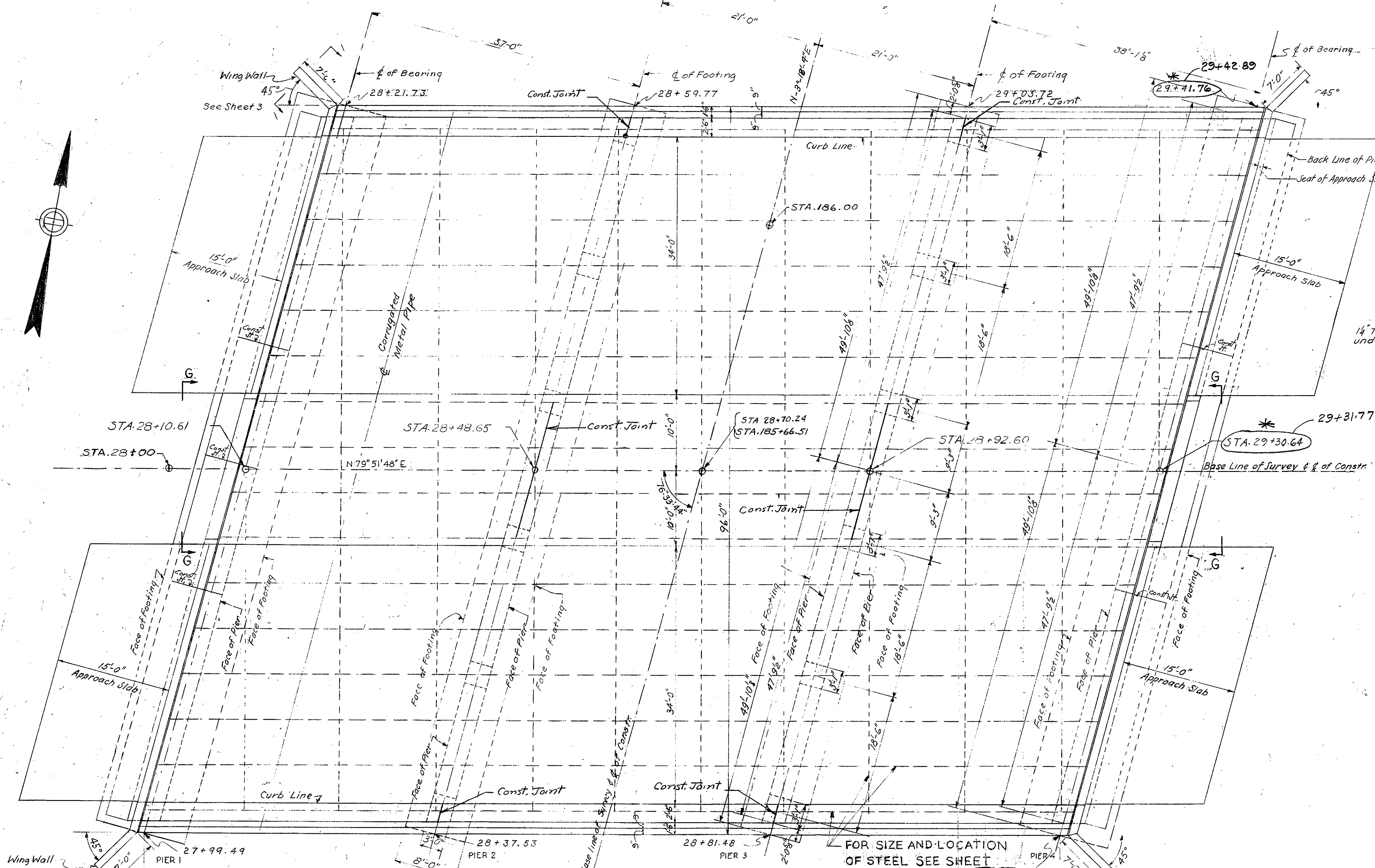
Location of Borings shown on Key Plan thus: *1
Borings taken for purposes of design and show conditions at boring points only, but do not necessarily show nature of material to be encountered in connection with the construction of the bridge.
Figures in columns indicate blows per foot on a 1" pipe produced by a 30" drop of a 140# hammer.
Samples from test borings are available and may be seen at the office of the Bridge Engineer Mr. R.O. Spafford, Room 609.



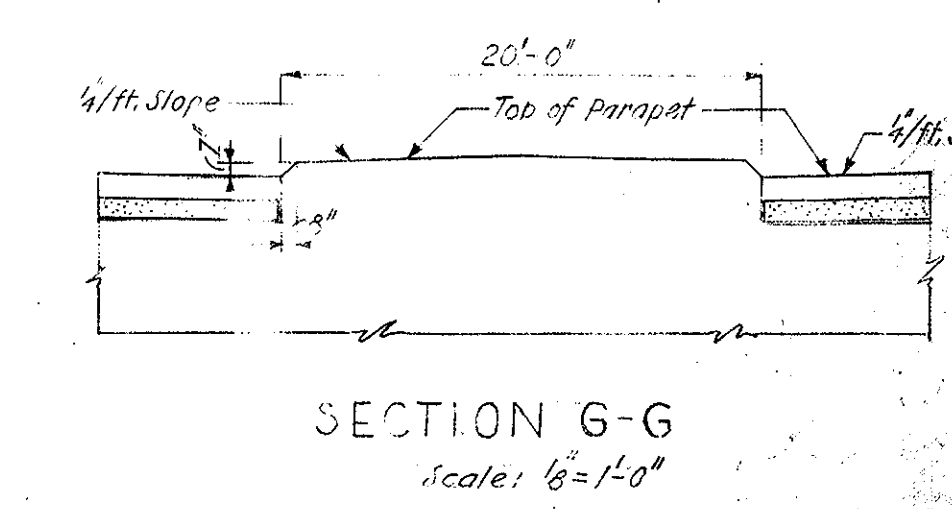
THOMAS WORCESTER INC.
CONSULTING ENG.
84 STATE ST. BOSTON, MASS.

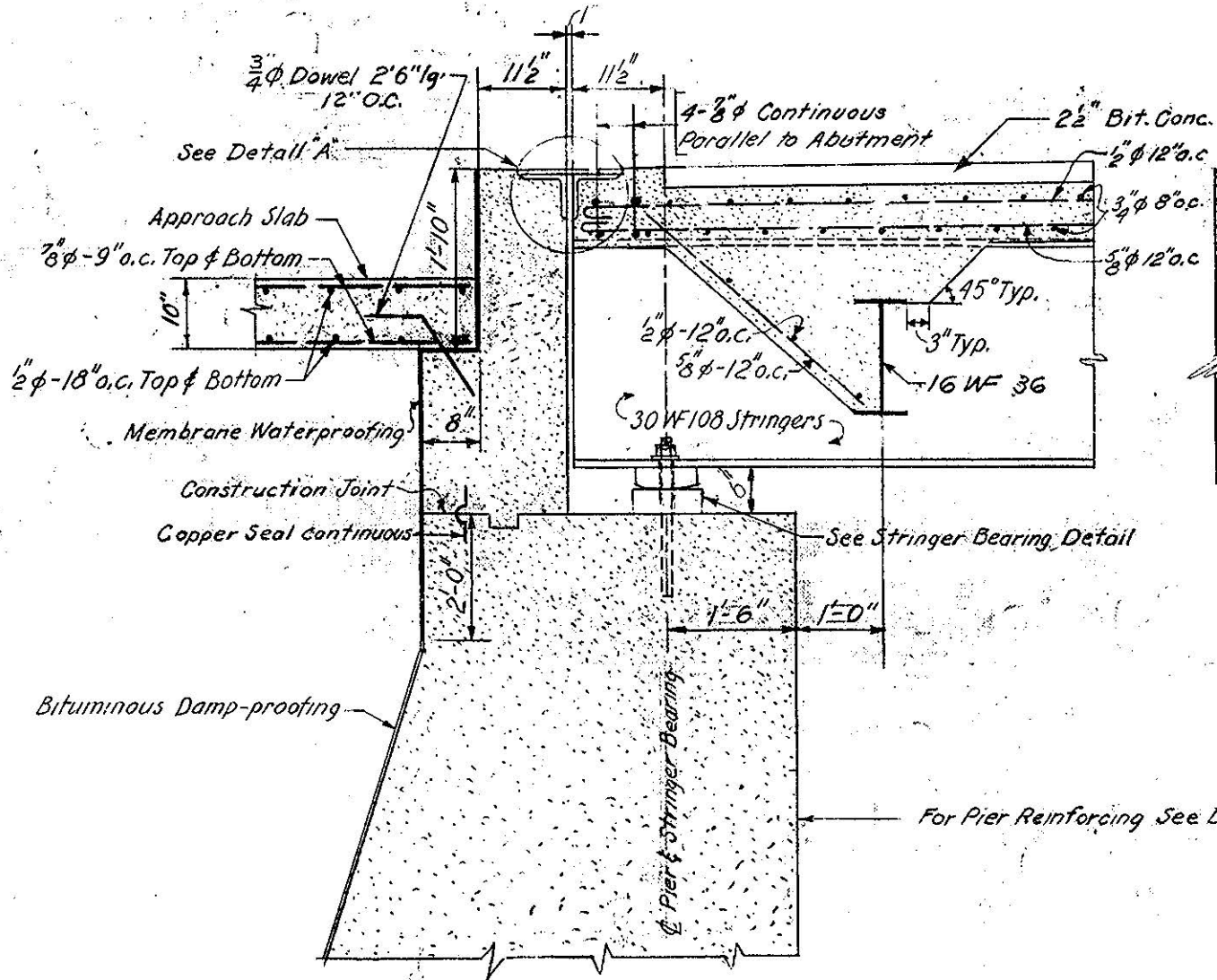
SHEET 2 OF 8 SHEETS BRIDGE No. W-43-30 (ANSI)

12/3/49	CONSTRUCTION
12/3/49	ADVERTISING
DATE	DESCRIPTION
USE ONLY PRINTS OF LATEST DATE	



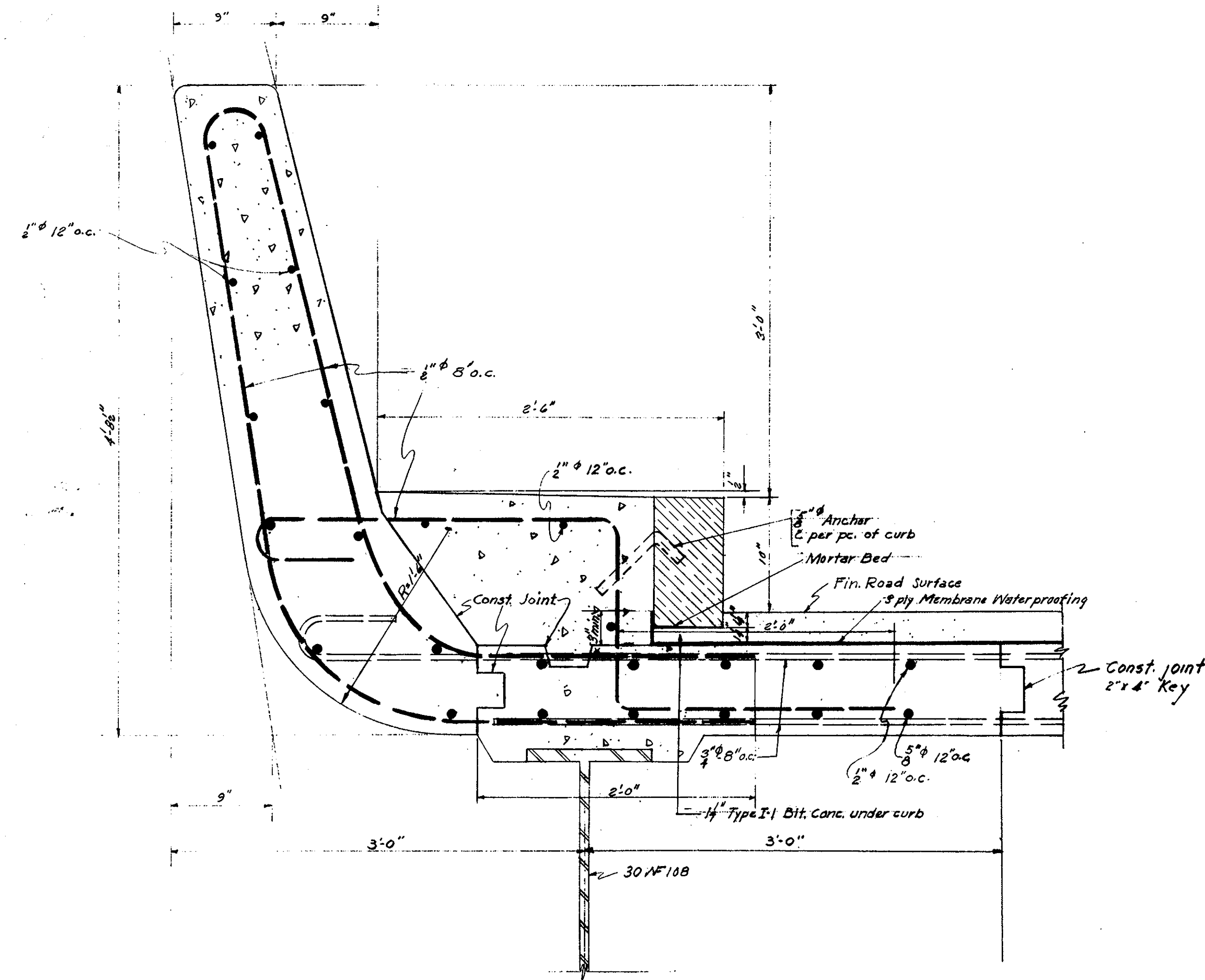
NOTE: * REVISION 1-16-50



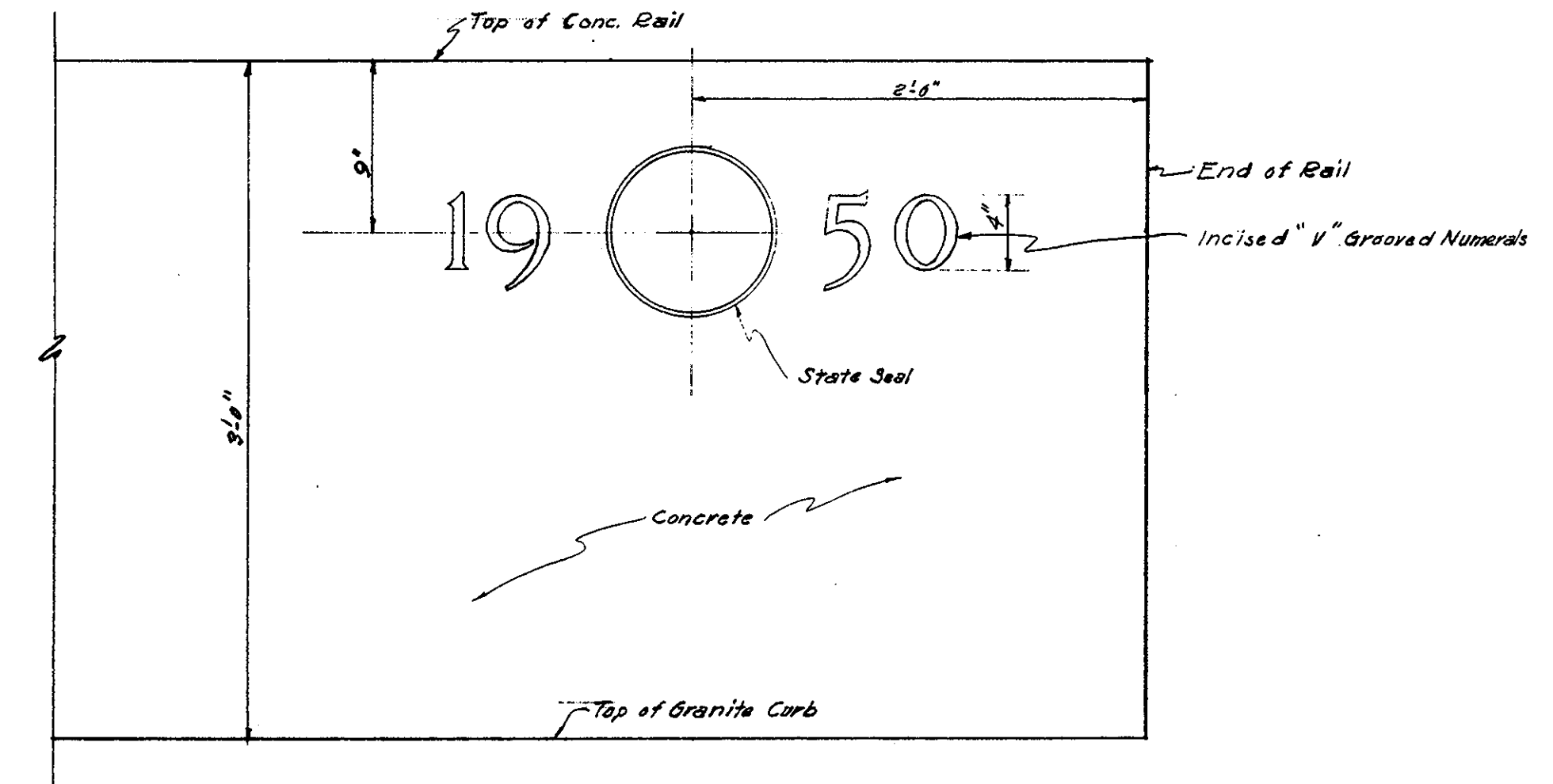


PIER No. 1

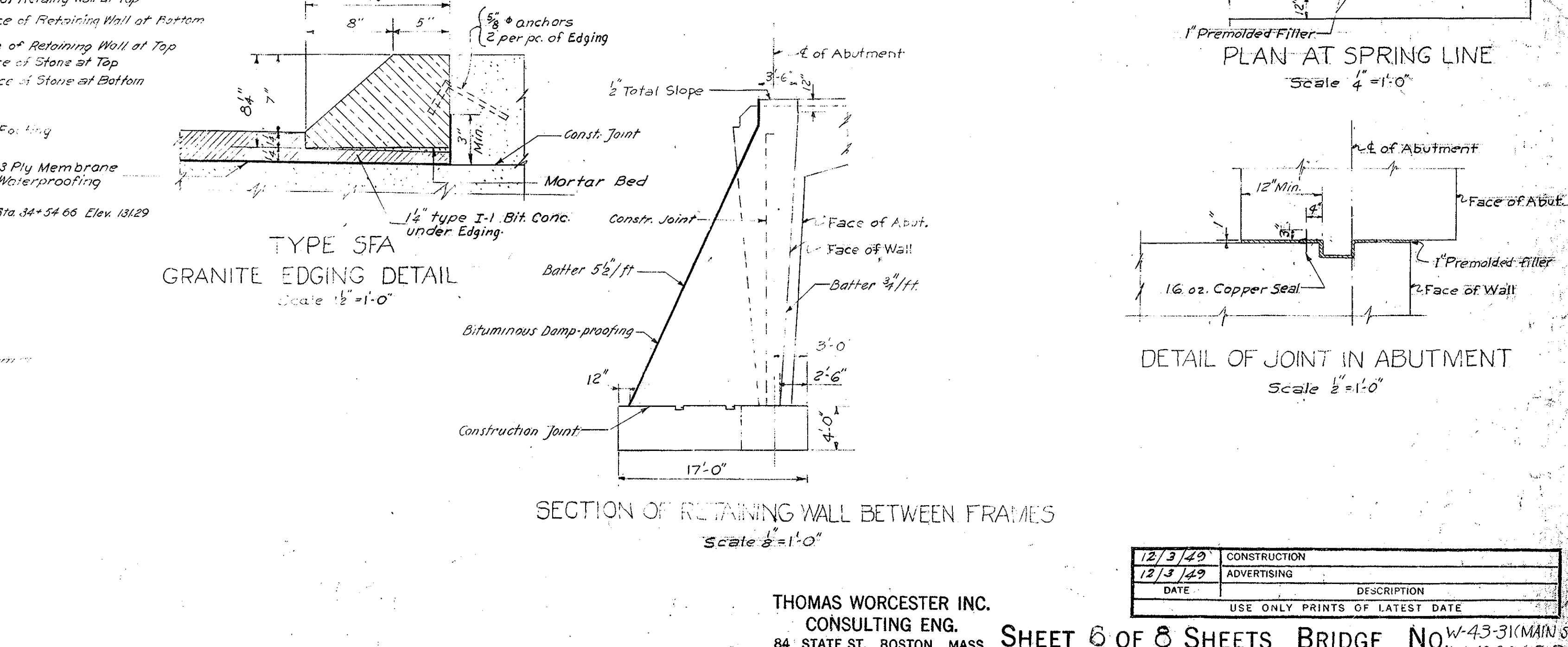
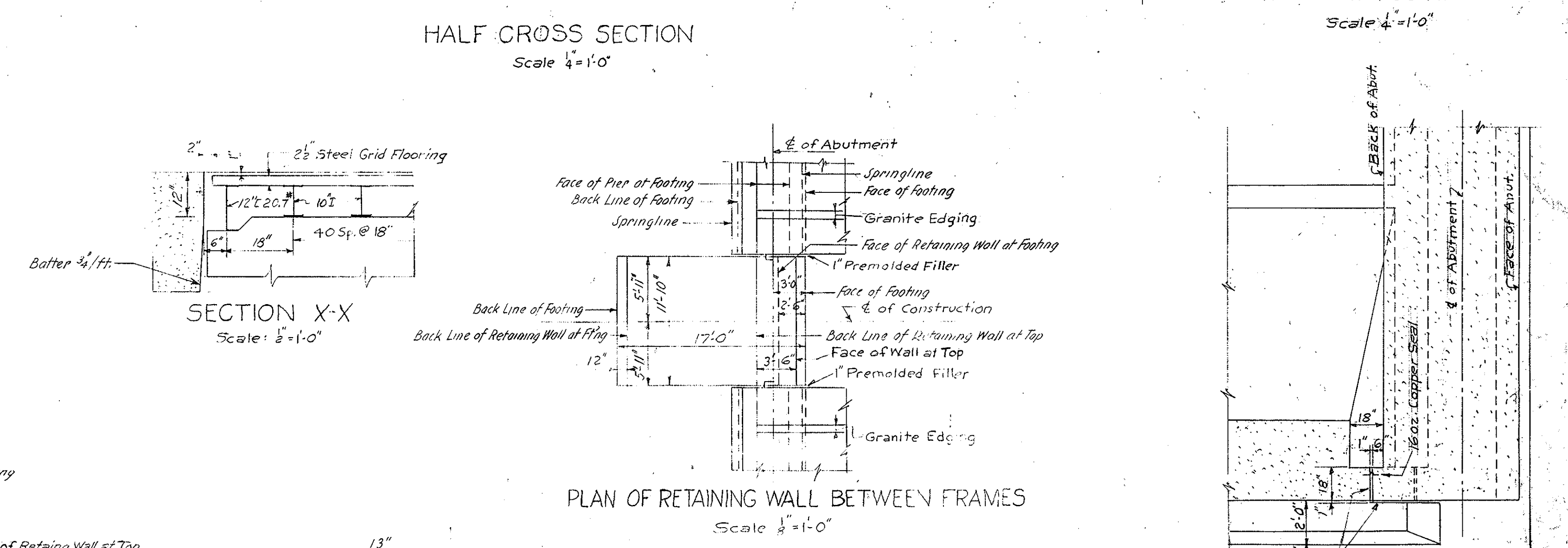
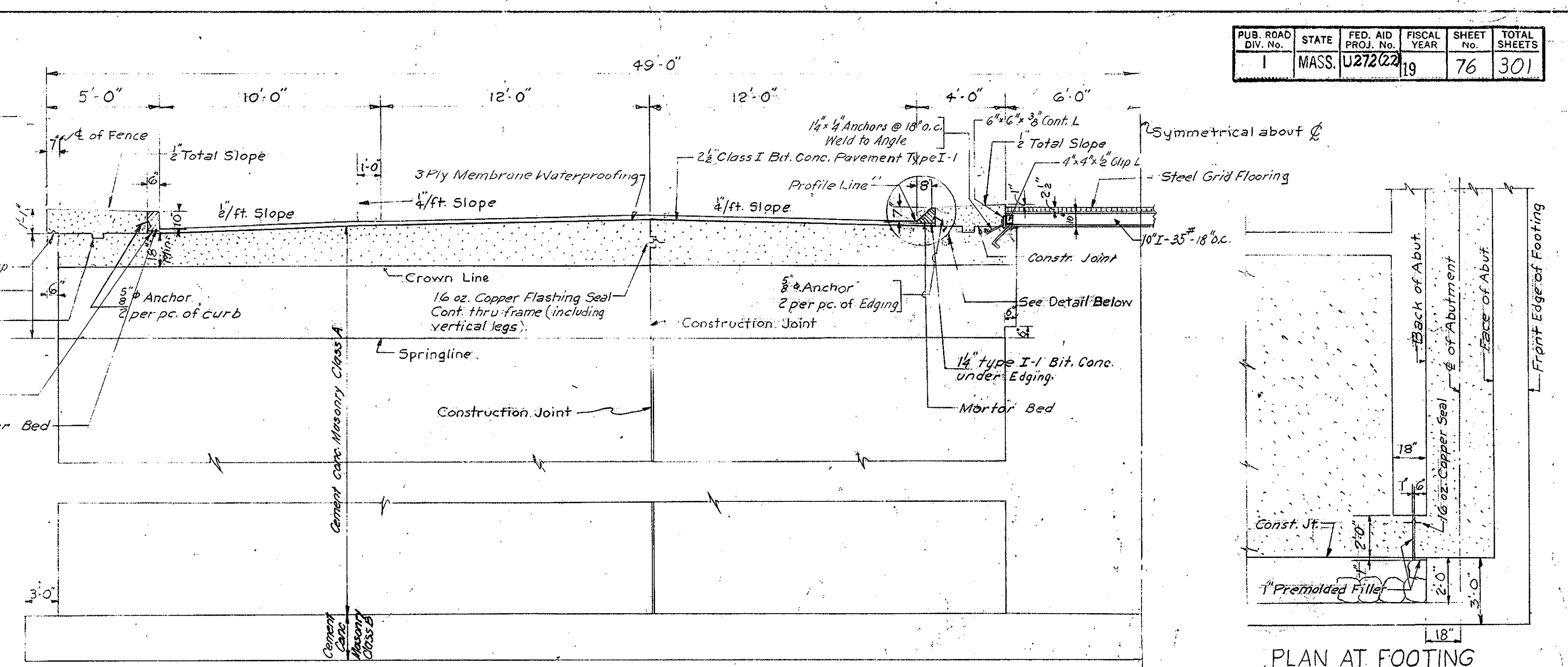
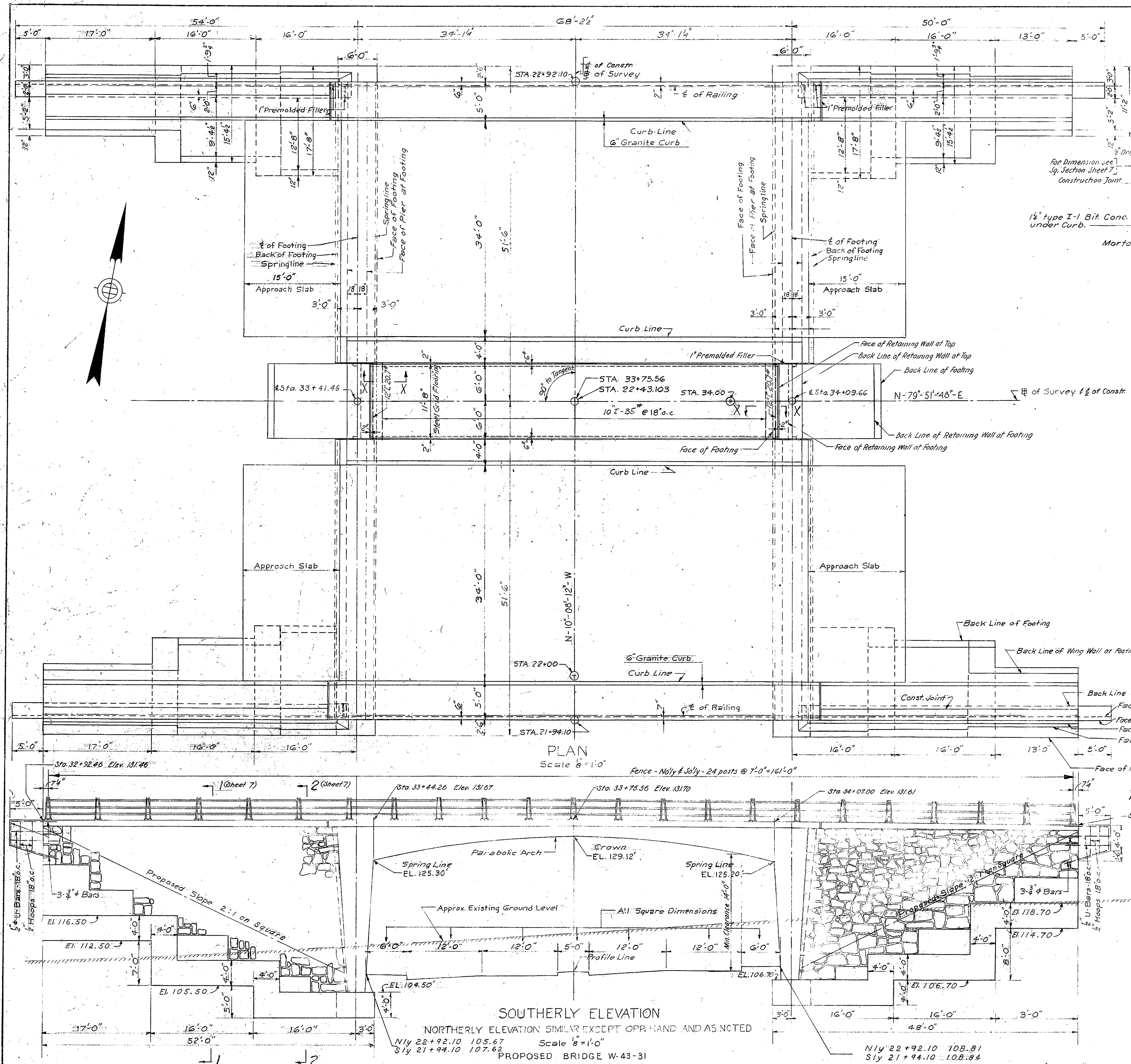
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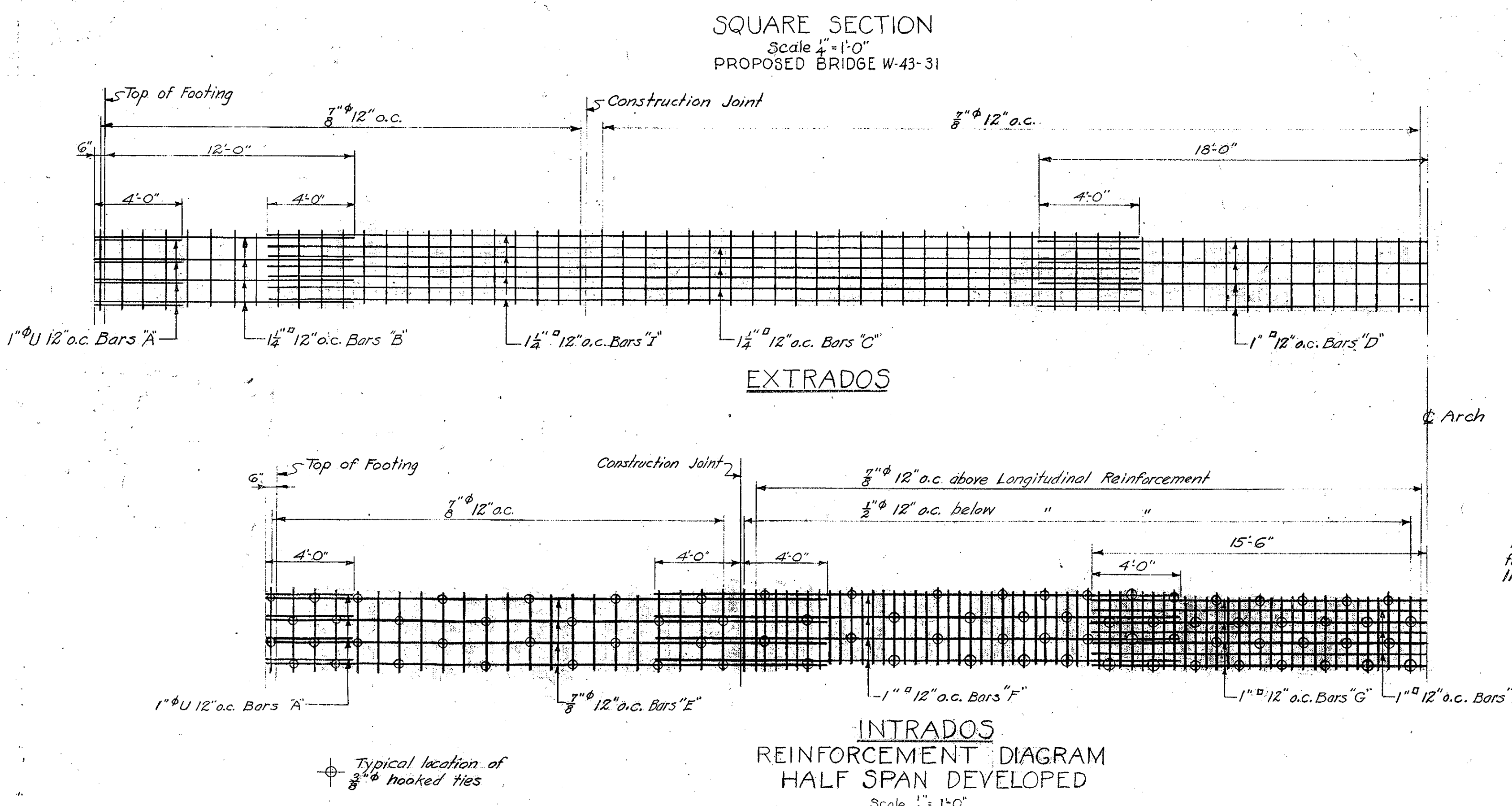
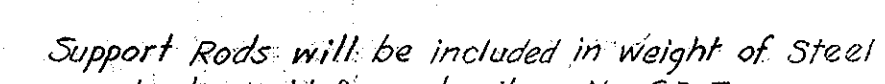
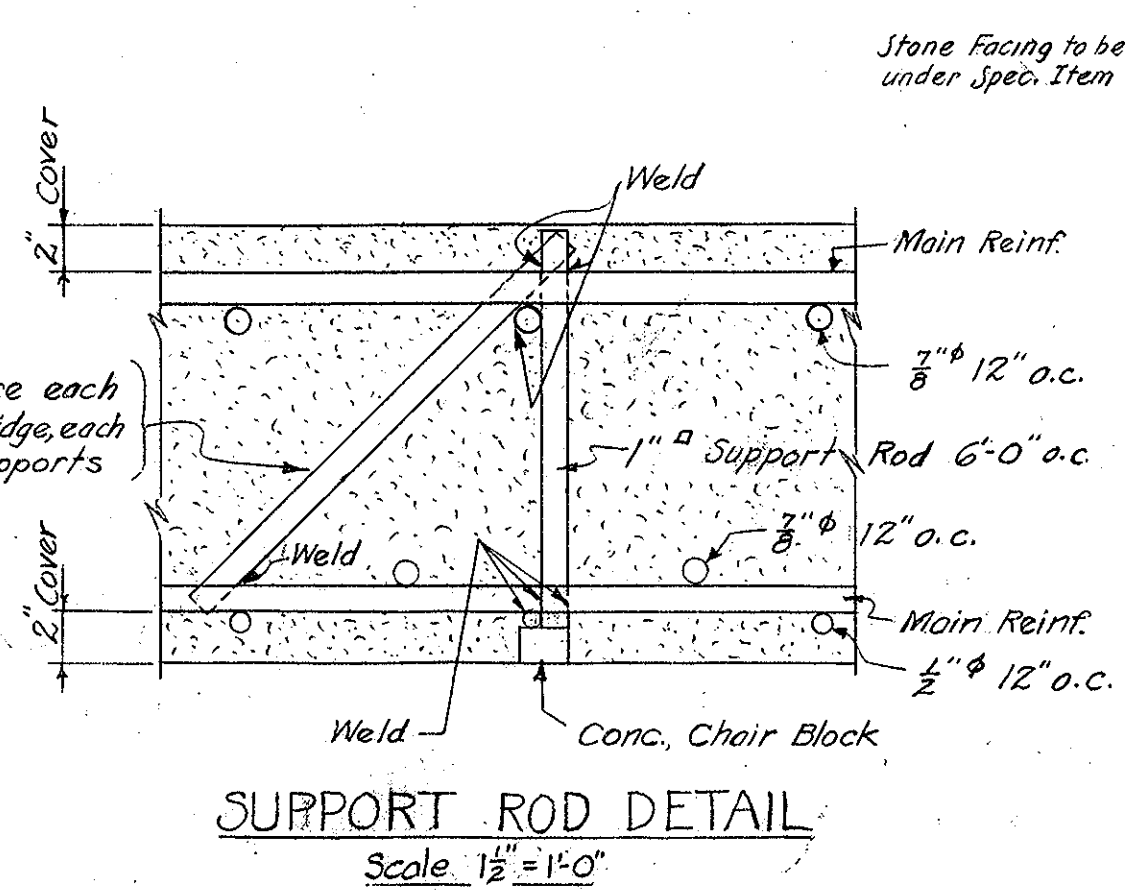
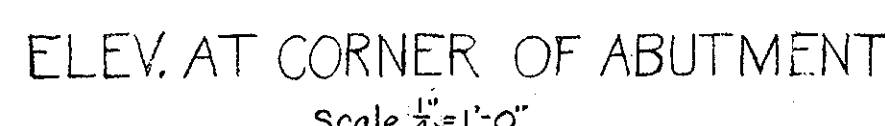
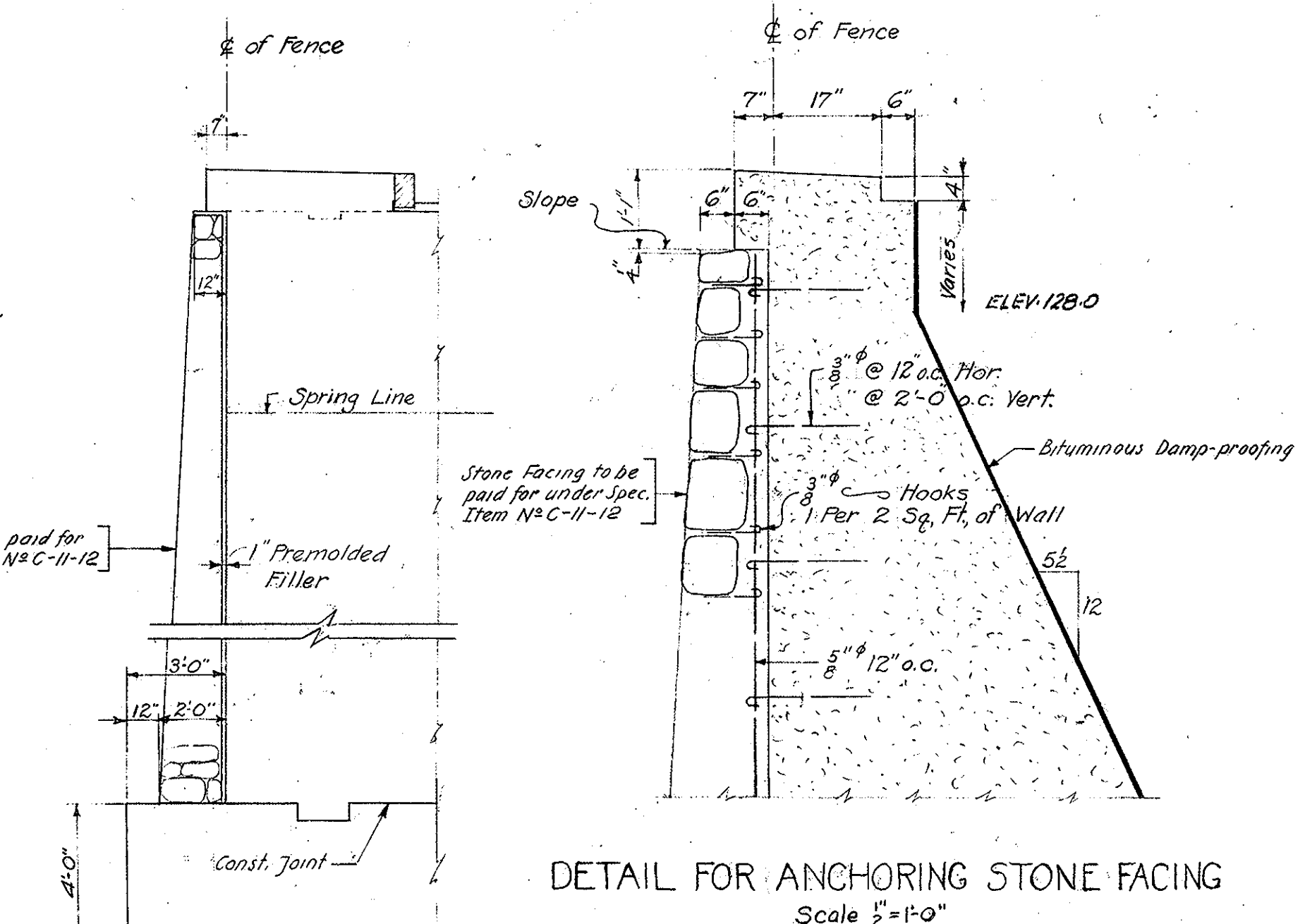
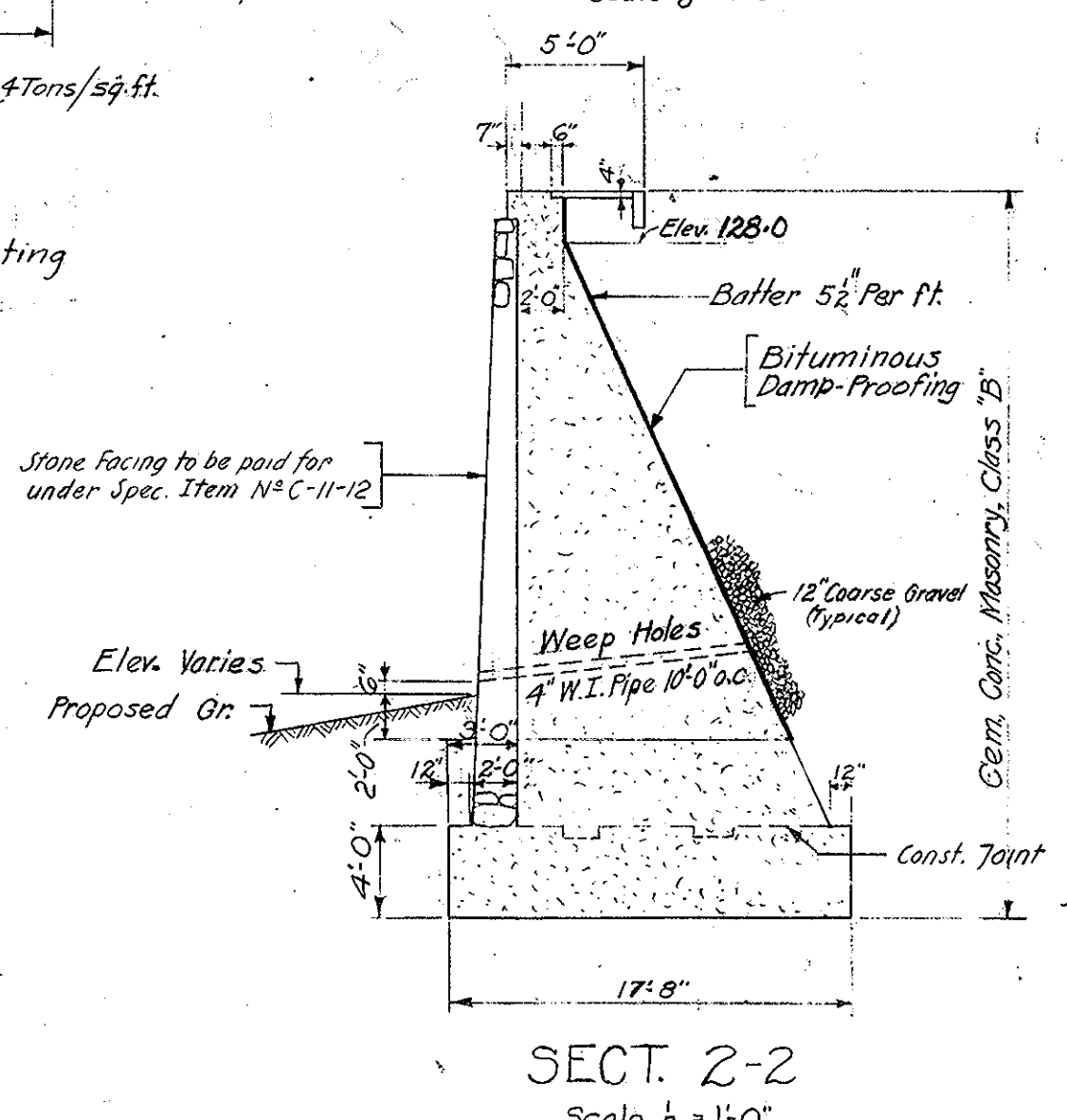
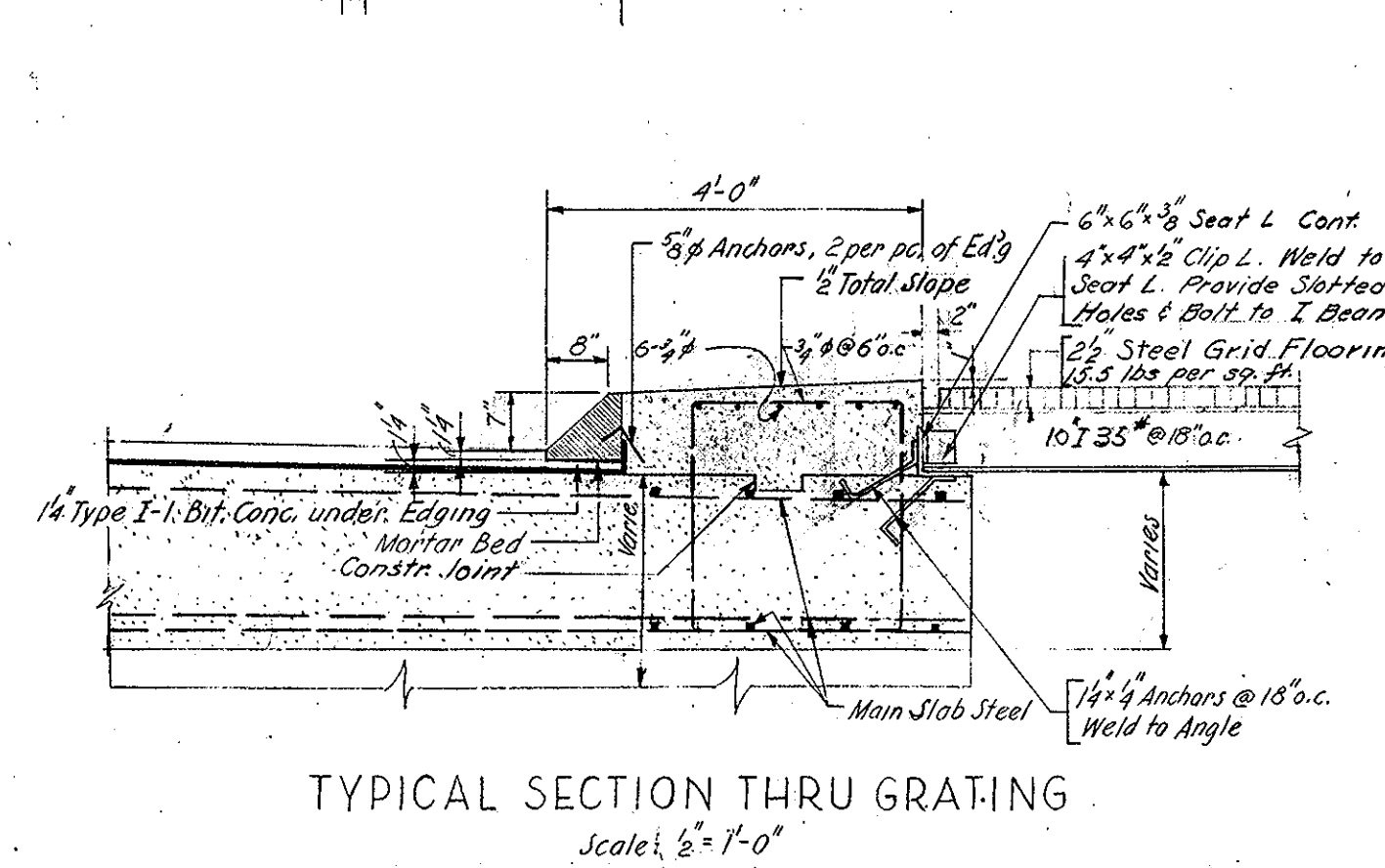
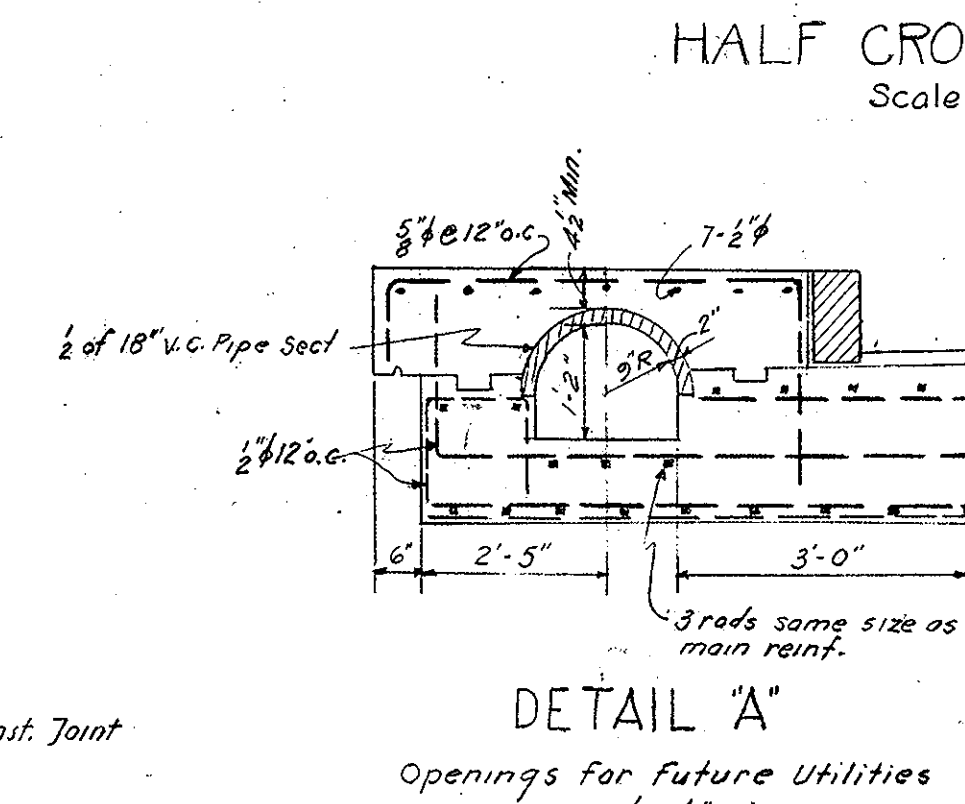
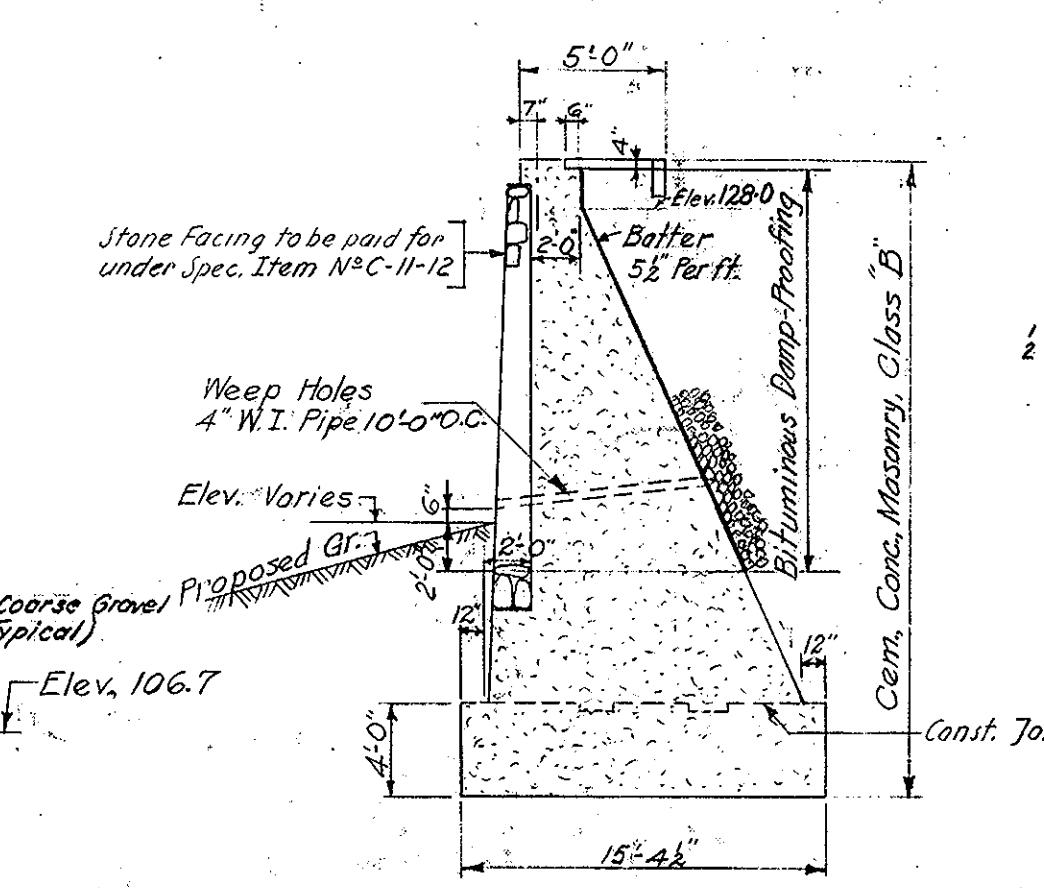
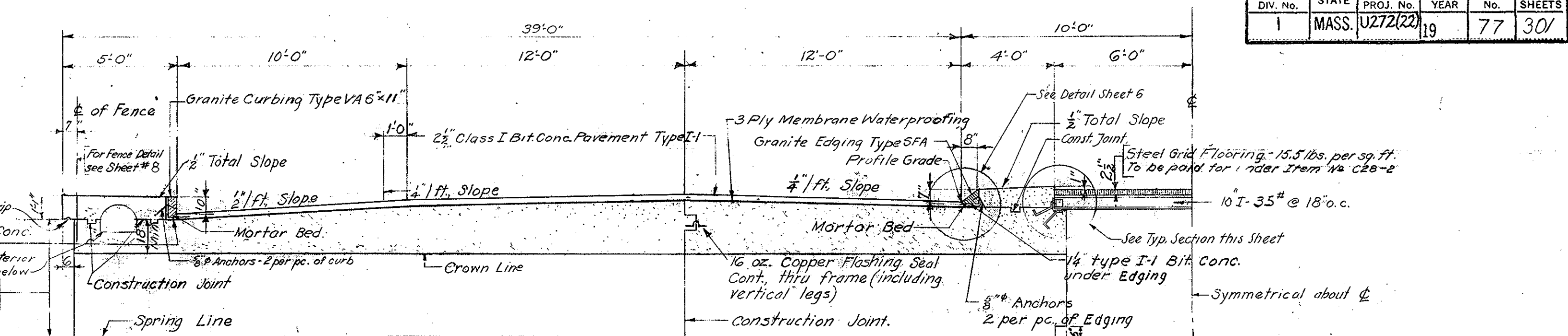
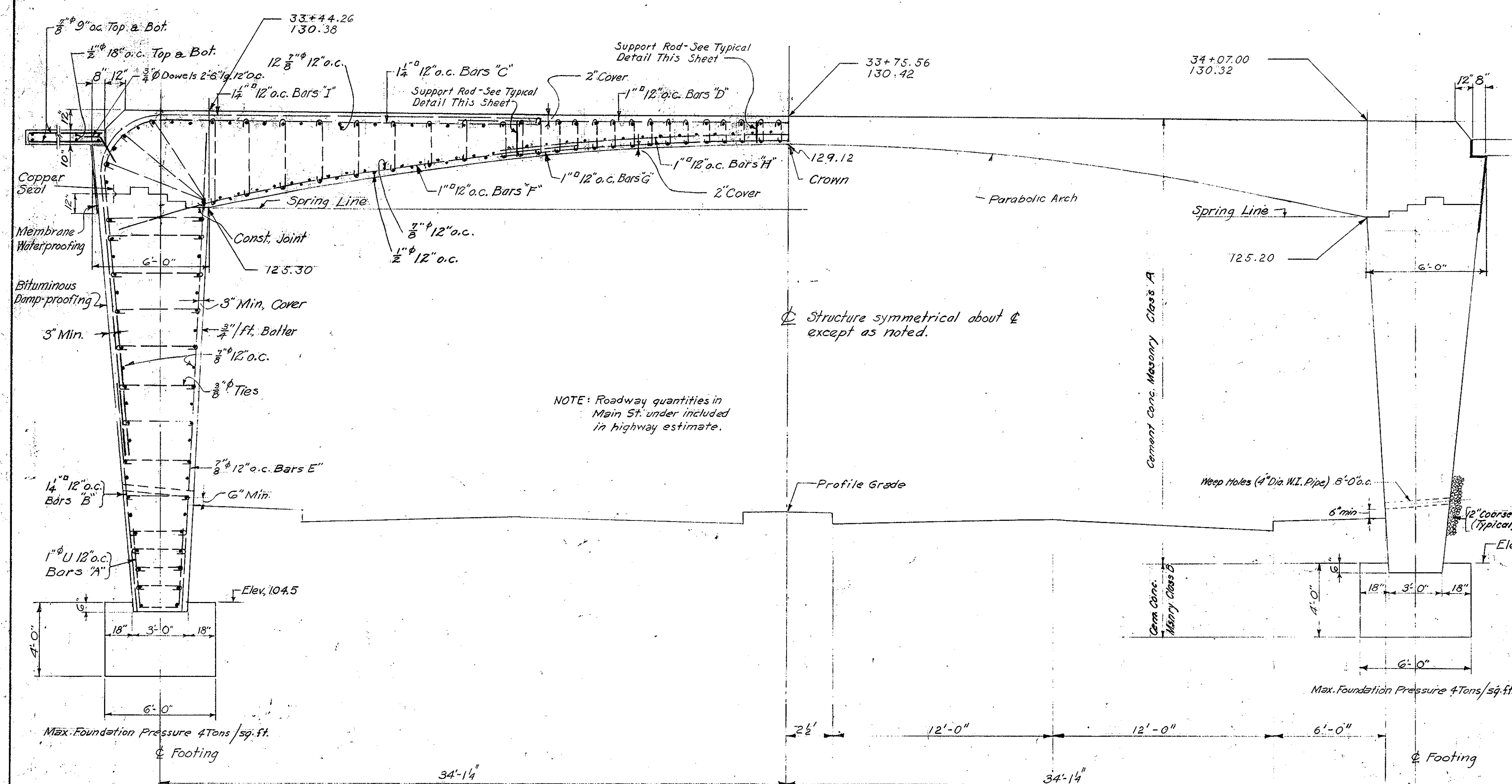


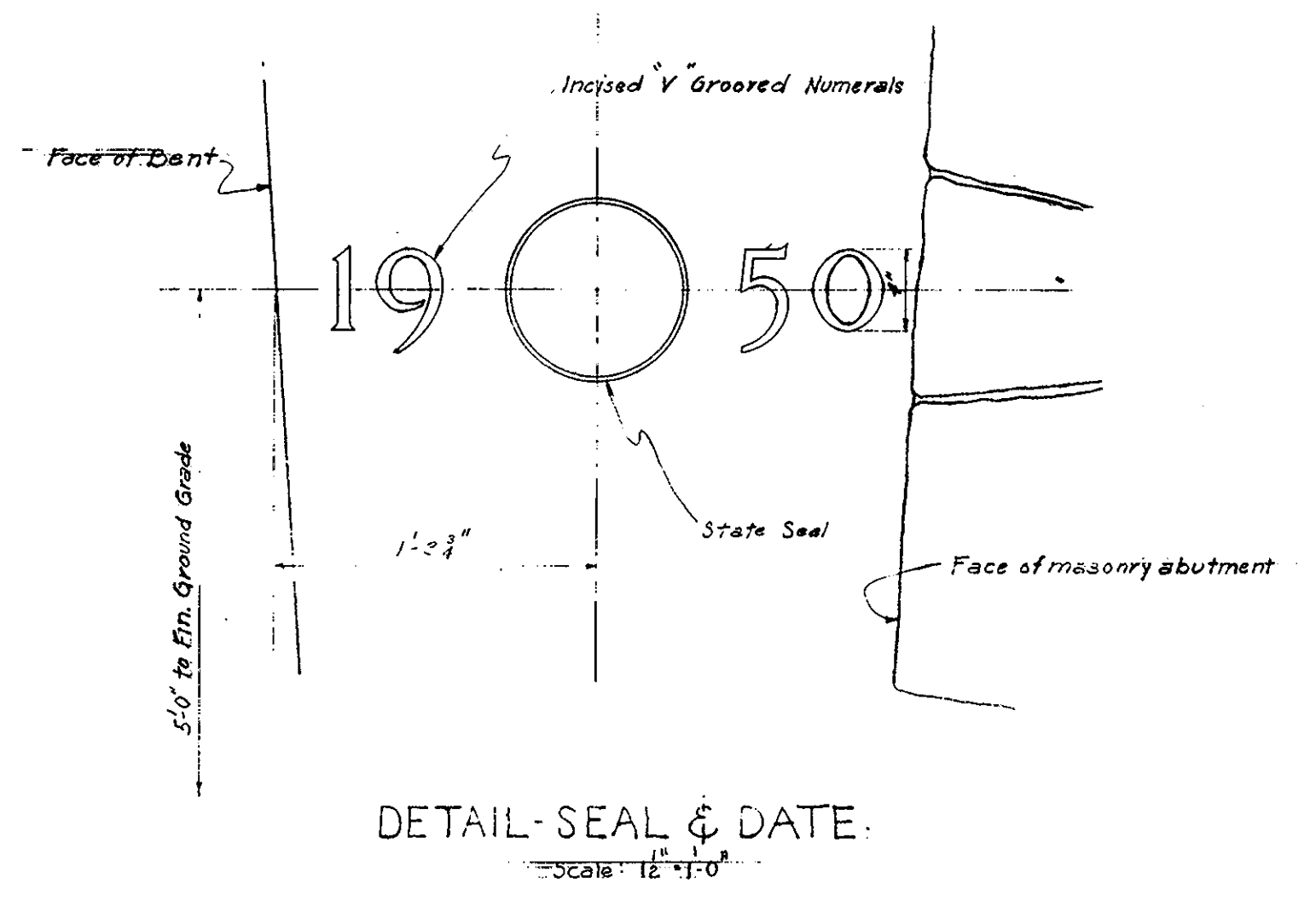
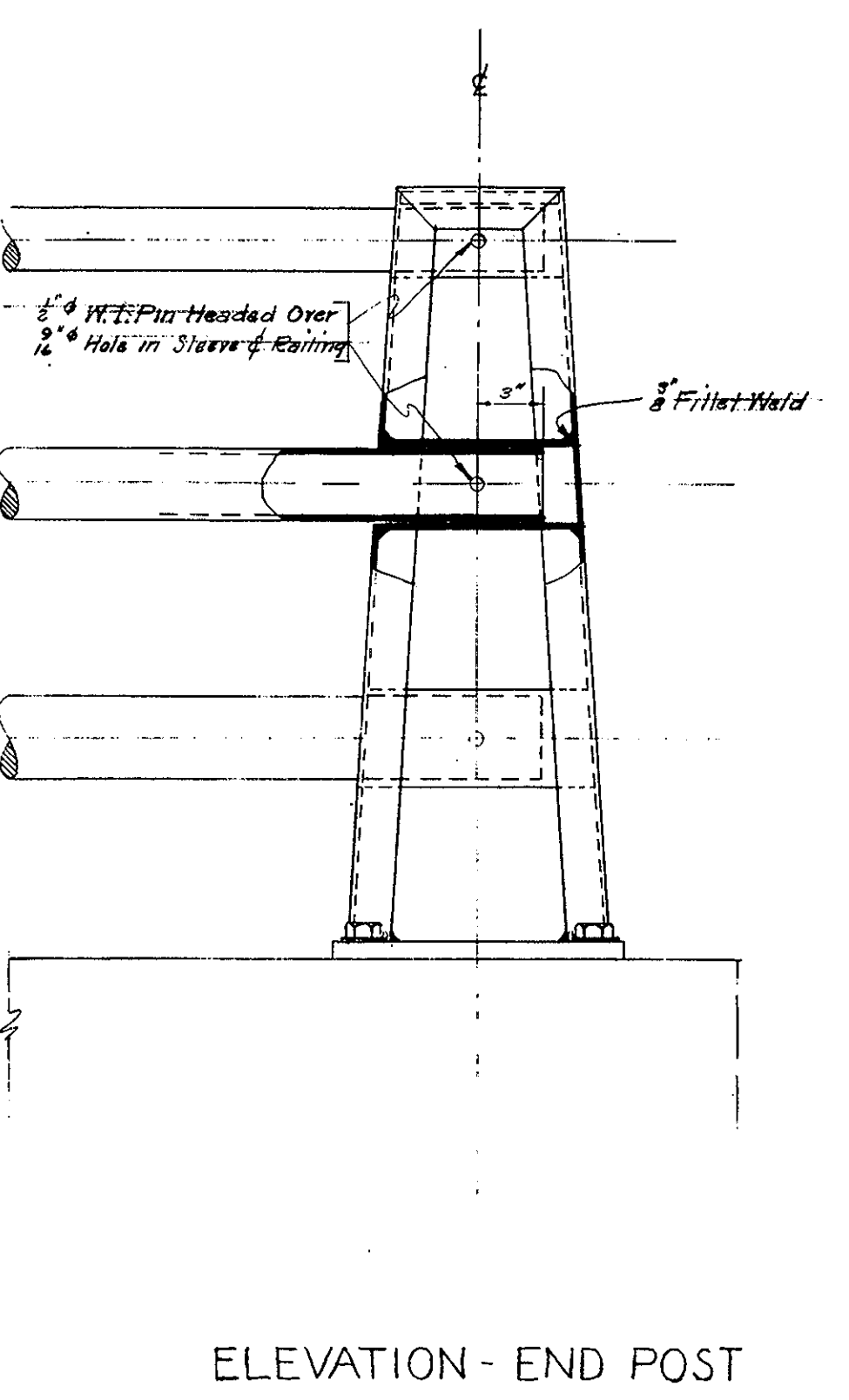
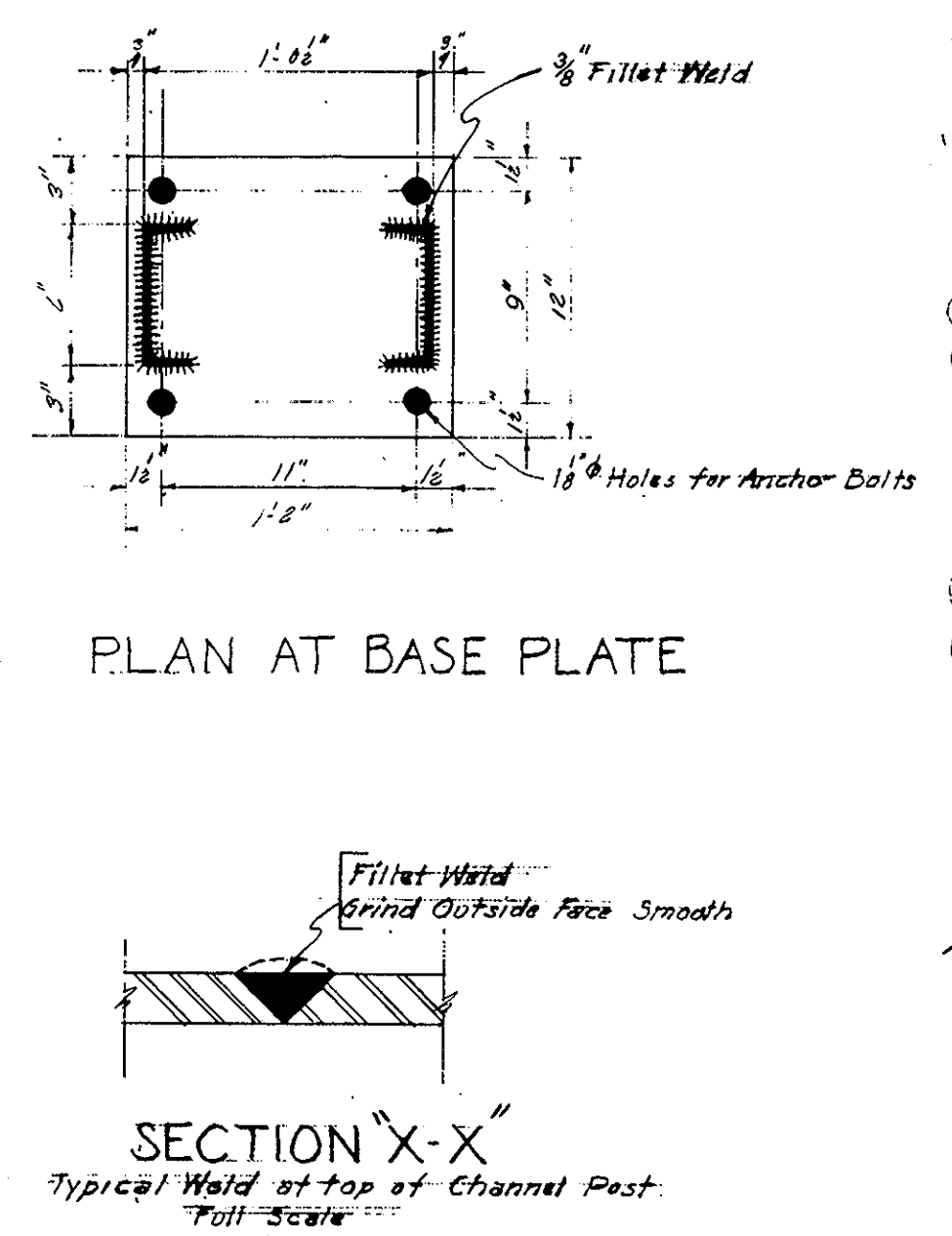
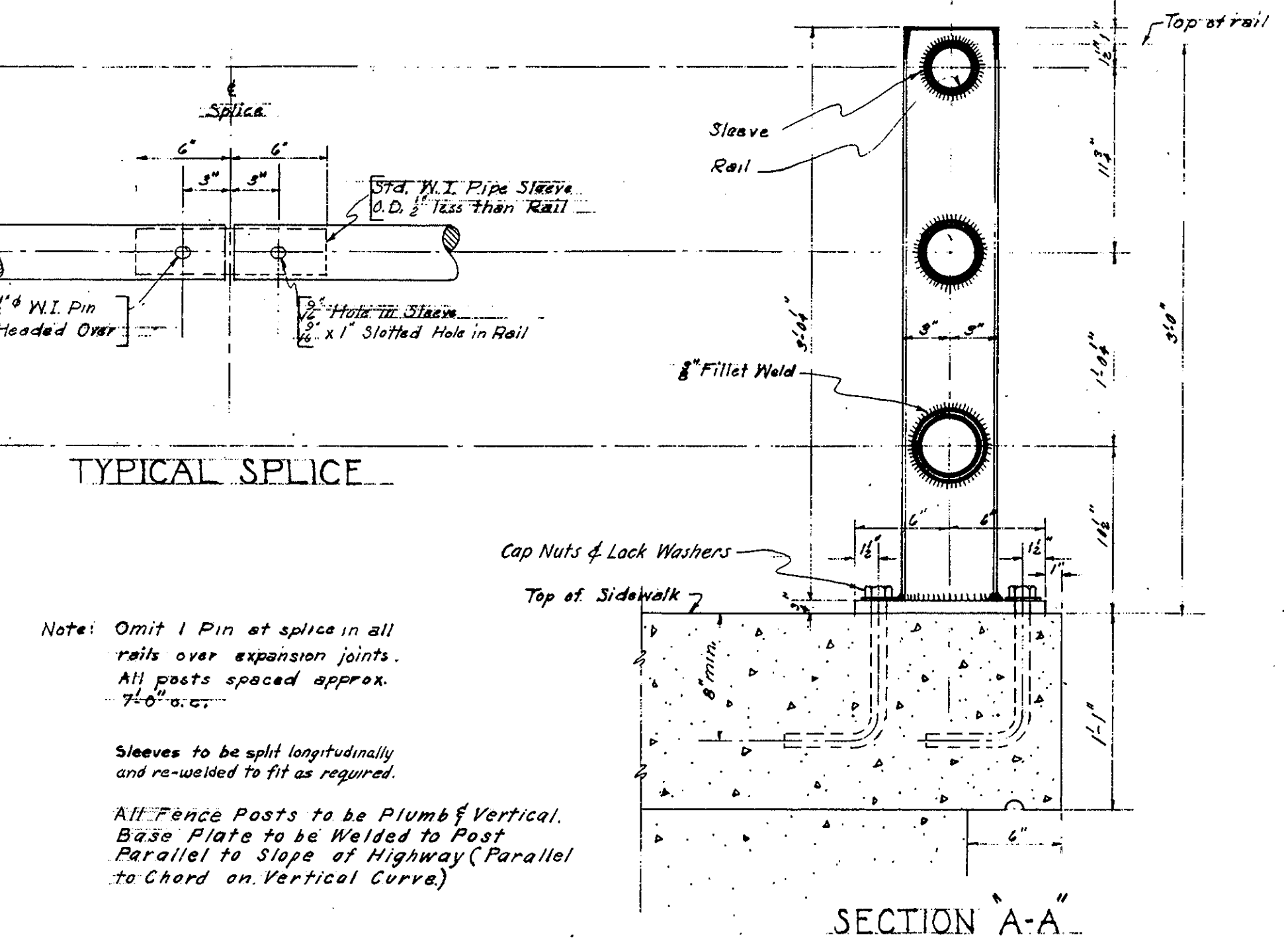
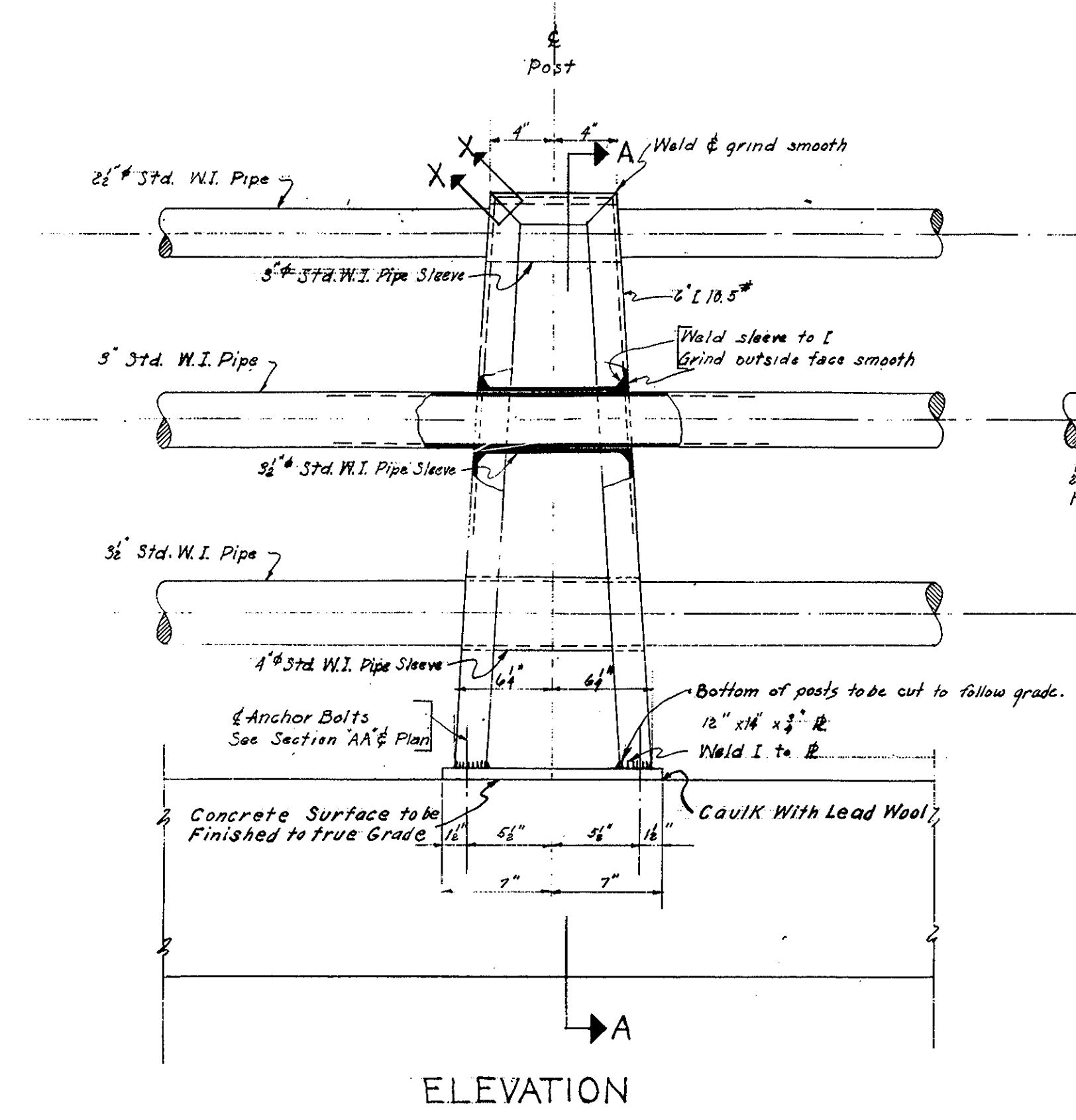
DETAIL-CONCRETE RAILING
Scale: 1/8" = 1'-0"



DETAIL-SEAL & DATE
Scale: 1/8" = 1'-0"





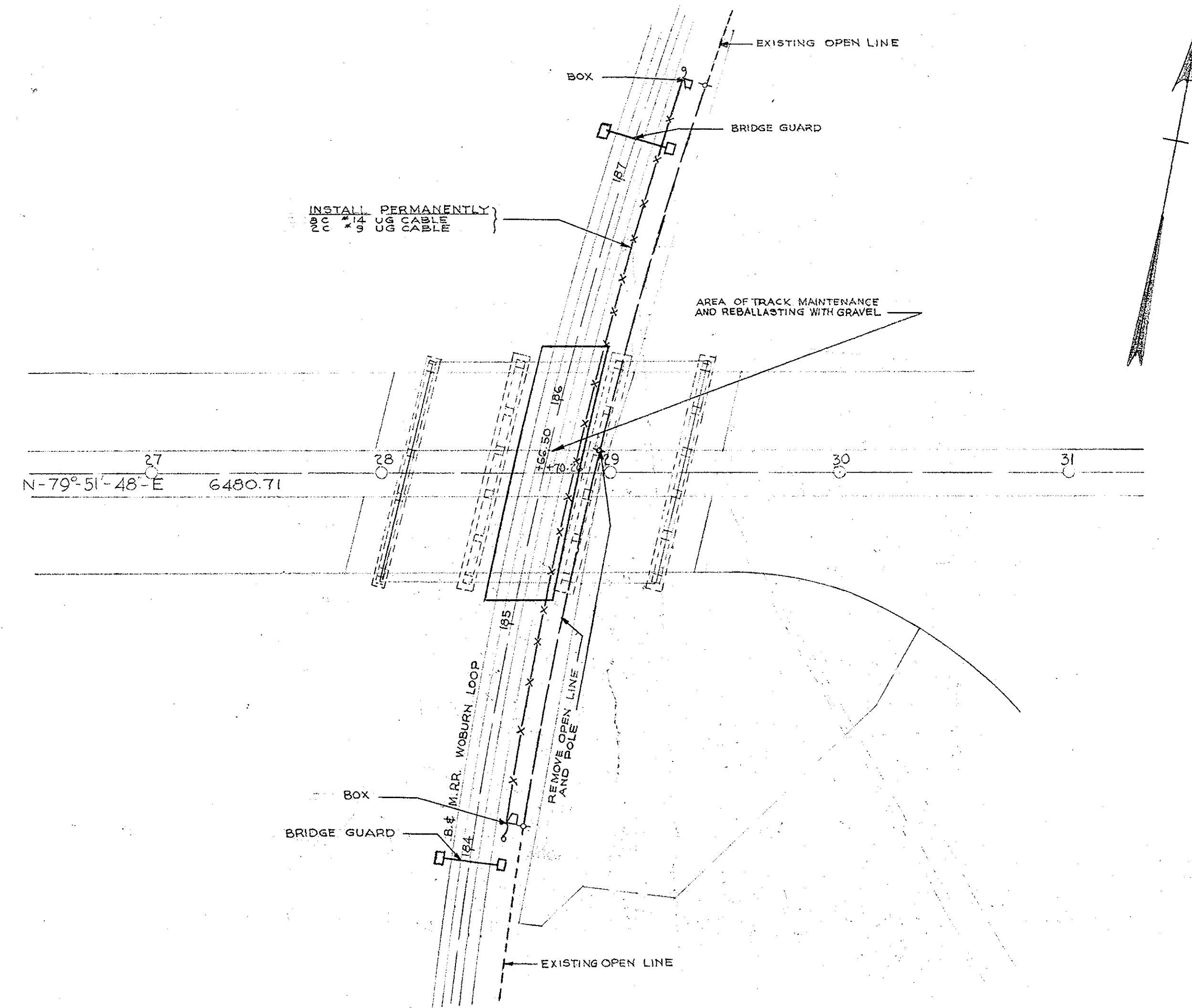


TRAILING DETAILS BRIDGE W43.31
Scale: 1/8" = 1'-0"

Note: All metals except w.p. shall be structural grade steel conforming to ASTM Specification A7.

W-43-31 MAIN ST
W-43-22 RA

PUB. ROAD	STATE	FED. AID	FISCAL	SHEET	TOTAL
DIV. NO.		PROJ. NO.	YEAR	NO.	SHEETS
1	MASS	0272(22)	19	78-A	301



LEGEND

EXISTING ———
TO COME OUT ———
TO GO IN PERMANENT — x —

WORK TO BE DONE BY BOSTON AND MAINE RAILROAD COMPANY

SCALE - 1" = 40'-0"

W-43-31 MAIN ST.
W-43-22 RR

DATE	CONSTRUCTION	ADVERTISING
USE ONLY PRINTS OF LATEST DATE		

84 OF 8

SHEET 00 OF 8 SHEETS BRIDGE NO. W-43-31 (MAIN ST.)
W-43-22 (RR)

PUB. NO.	STATE	FEDERAL AID PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	MASS.	U272()	196	51	149

GENERAL NOTES

FOUNDATIONS

MAY BE ALTERED, IF NECESSARY, TO SUIT CONDITIONS ENCOUNTERED IN CONSTRUCTION.

DATE & SEAL

TO BE PLACED ON THE INSIDE FACES OF THE NORTHEASTERLY & SOUTHWESTERLY END POSTS. A SHEET SHOWING SIZE AND CHARACTER OF NUMERALS WILL BE FURNISHED. SEAL TO BE FURNISHED BY THE COMMONWEALTH AND PLACED BY THE CONTRACTOR. SEE DETAIL, SHEET 4.

DESIGN

IN ACCORDANCE WITH THE CURRENT SPECIFICATIONS OF THE AMERICAN ASSOCIATION OF STATE HIGHWAY OFFICIALS (1957 E. FOR H-20-44 LOADING).

BENCH MARK

STA. 186 + 80.66 R.R. & RAIL BOUND (P.I.) ELEV. 98.53.

SEA LEVEL DATUM OF 1929.

DIMENSIONS

ALL DIMENSIONS AND DETAILS SHOWN FOR THE EXISTING STRUCTURE MUST BE CHECKED IN THE FIELD BY THE CONTRACTOR.

REINFORCEMENT

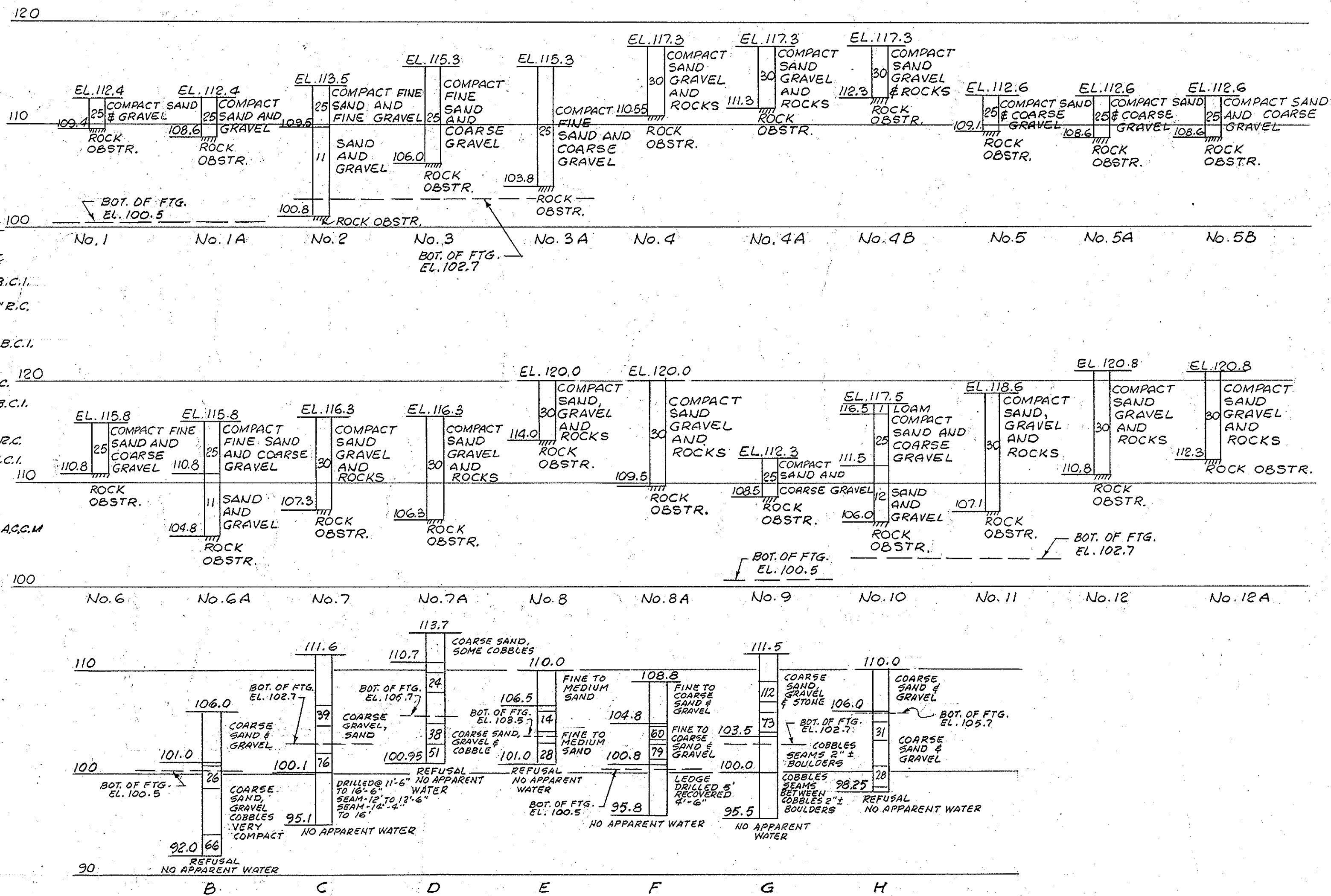
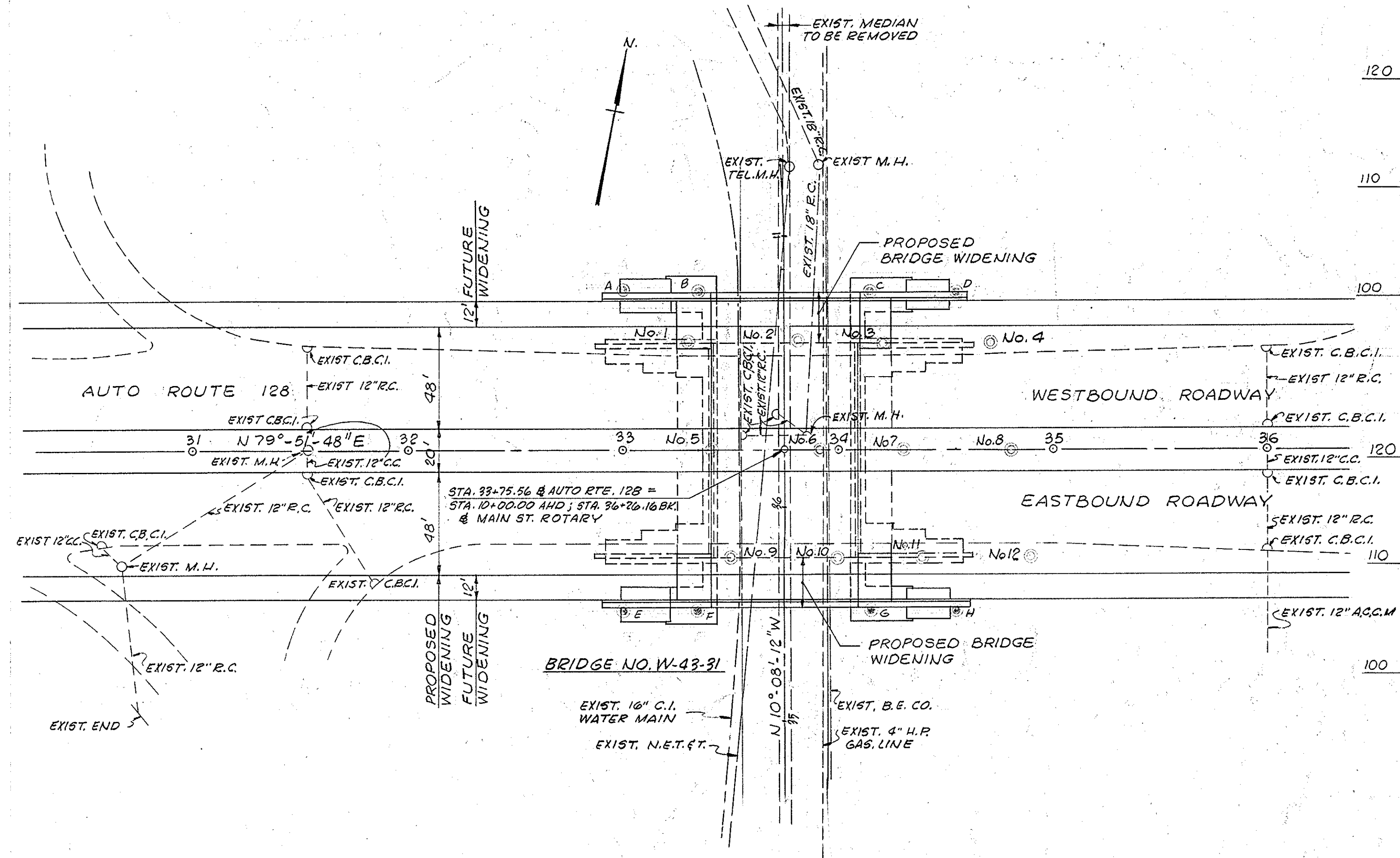
ALL BARS SHALL HAVE DEFORMATIONS CONFORMING TO A.S.T.M. DESIG. A-305. UNLESS OTHERWISE SHOWN ON THE PLANS, ALL REINFORCING BARS SHALL BE LAPPED 20 DIAMETERS TO MAKE A SPLICE, EXCEPT THAT MAIN REINFORCING BARS NEAR THE TOP OF SLABS AND BEAMS HAVING MORE THAN 12 INCHES OF CONCRETE UNDER THE BARS SHALL BE LAPPED 35 DIAMETERS TO MAKE A SPLICE.

ESTIMATED QUANTITIES

(NOT GUARANTEED)

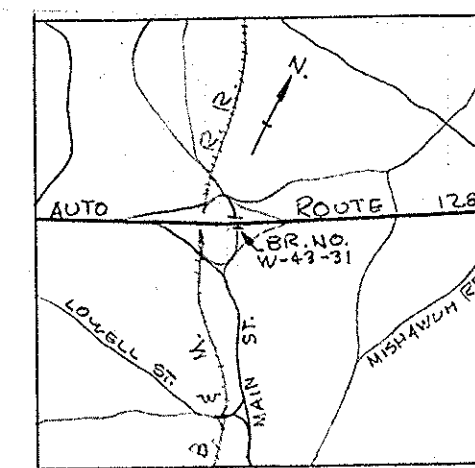
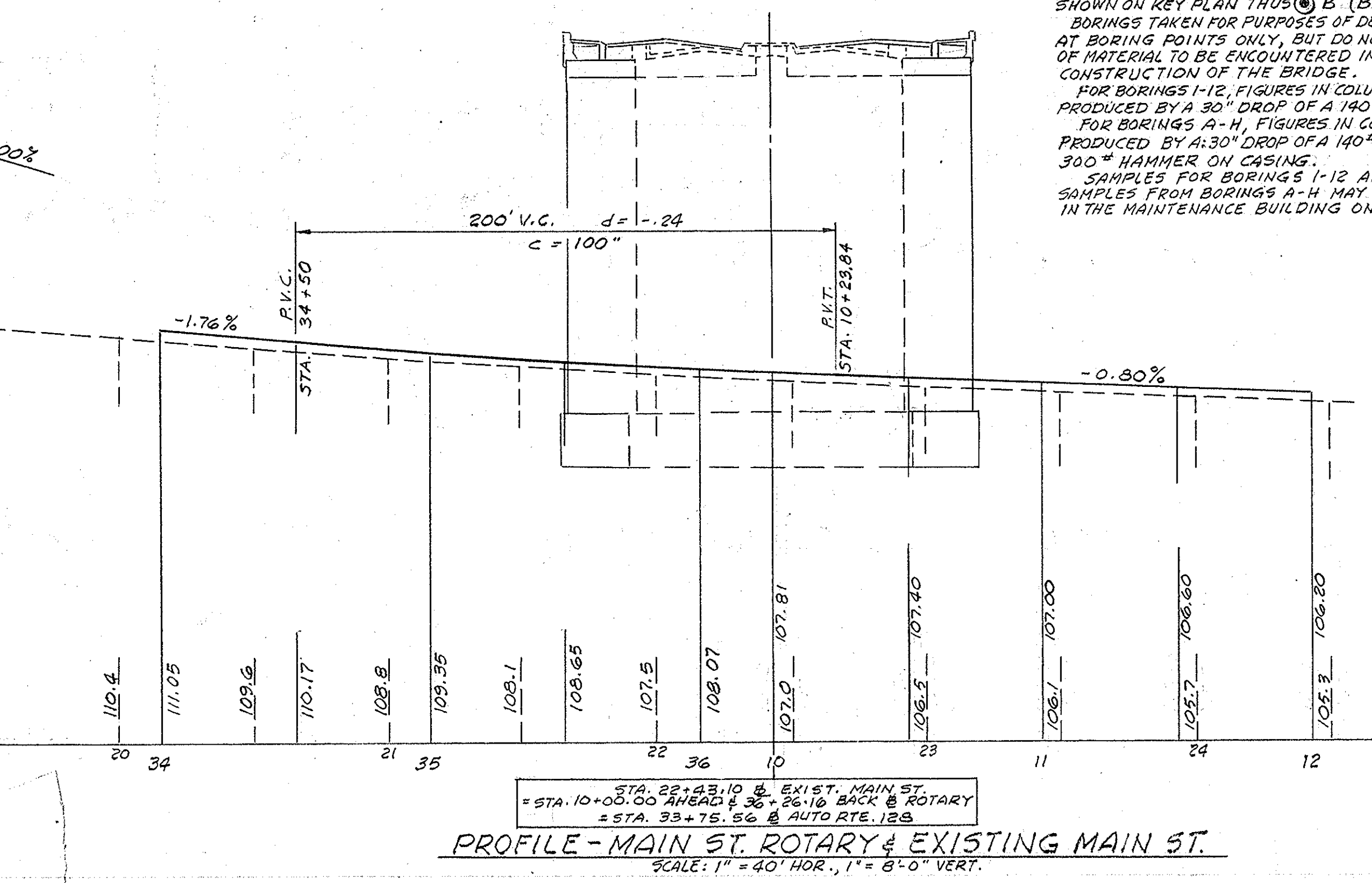
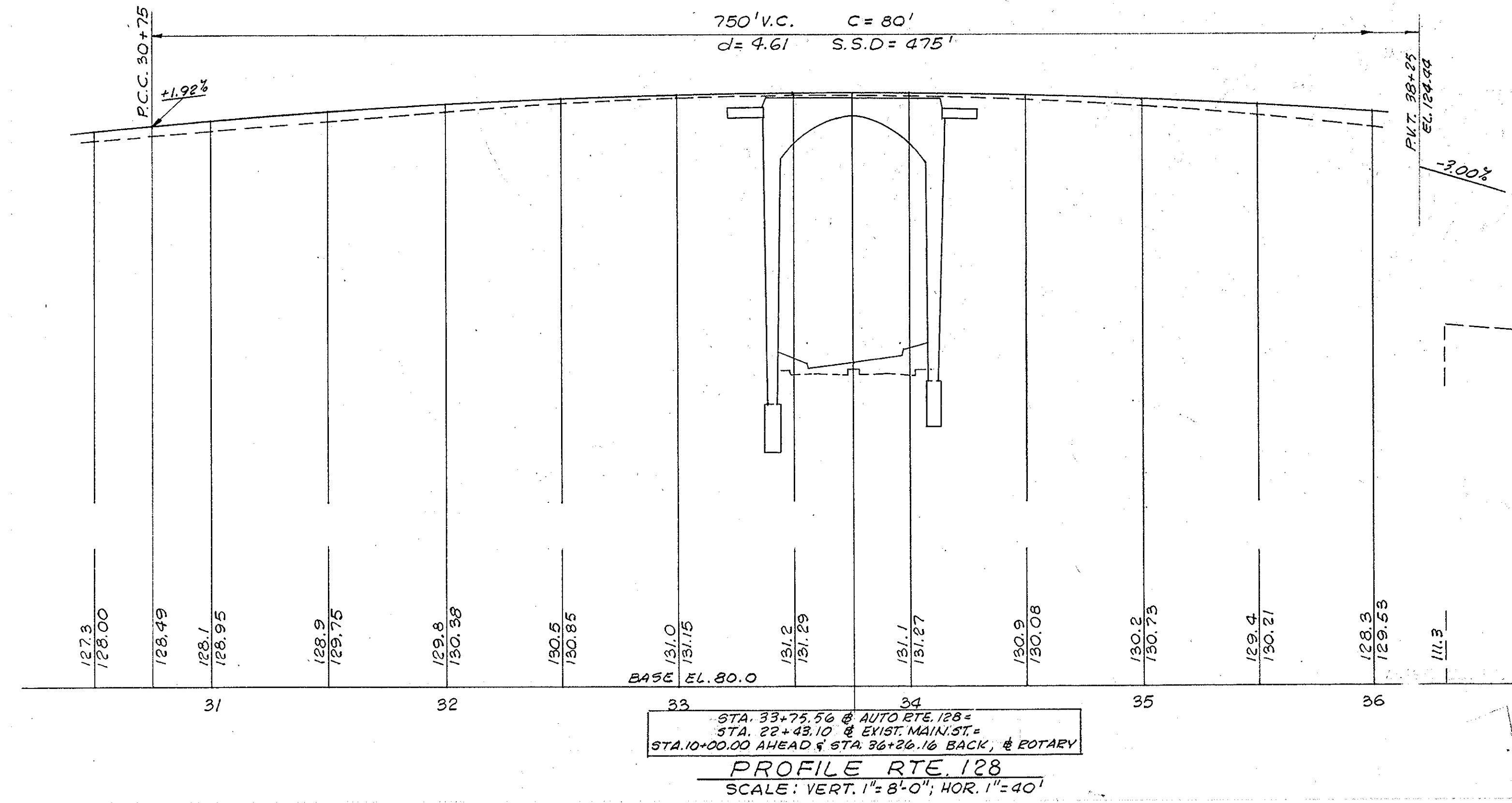
BRIDGE EXCAVATION	1100 C.Y.
CLASS 8 ROCK EXCAVATION	15 C.Y.
CONCRETE EXCAVATION	50 C.Y.
REINFORCED CONCRETE EXCAVATION	40 C.Y.
GRAVEL BORROW	1500 C.Y.
CRUSHED STONE FOR BASE COURSE	160 TONS
BITUMEN FOR ROADWAY BASE COURSE	1000 GALS.
CLASS I BIT. CONC. PAVEMENT, TYPE I-1	105 TONS
BRIDGE STRUCTURE (W-43-31)	1 L.S.
3/8" PERSTONE	70 TONS

NOTE: EST. WEIGHTS OF STEEL REINFORCEMENT FOR STRUCTURES (203,000 LBS.) AND STRUCTURAL STEEL (2900 LBS.) ARE A PART OF CONTRACT ITEM G15-3 (BRIDGE STRUCTURE W-43-31) AND ARE NOT GUARANTEED.



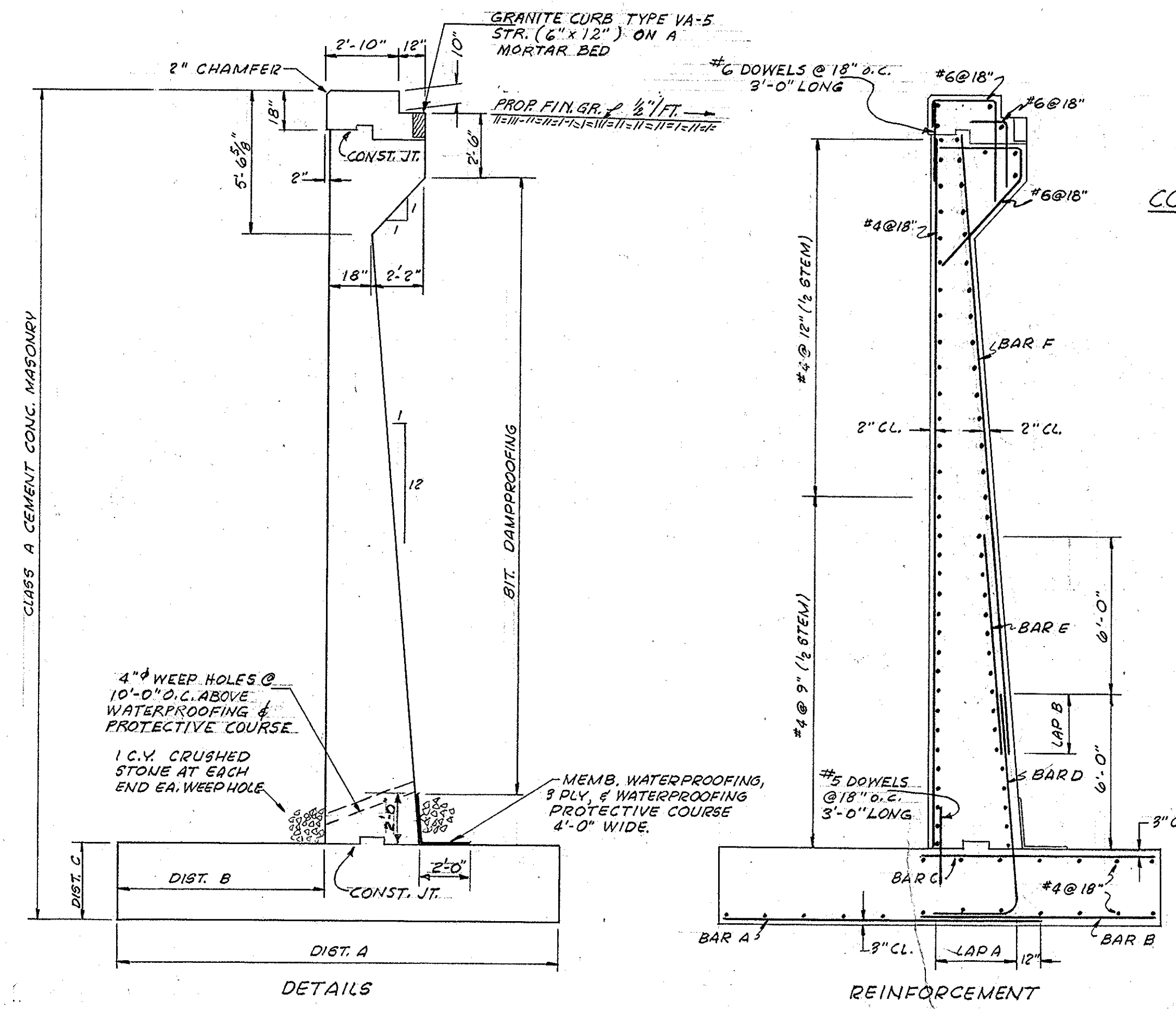
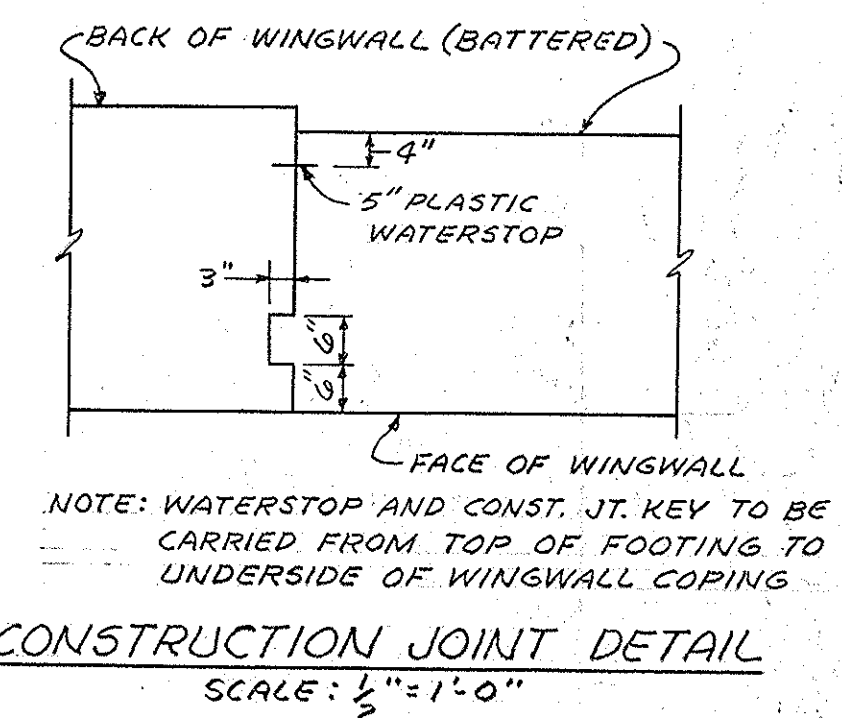
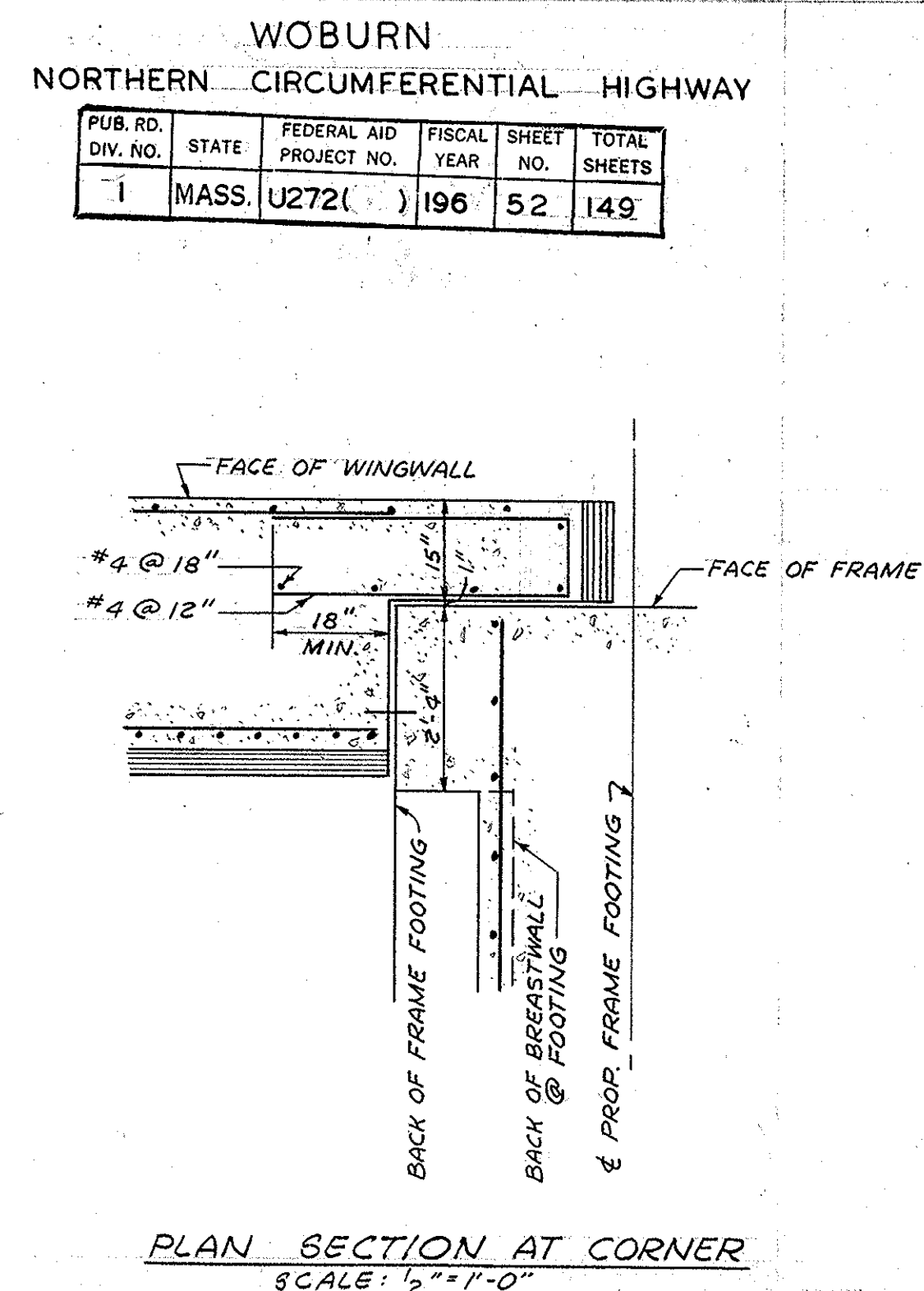
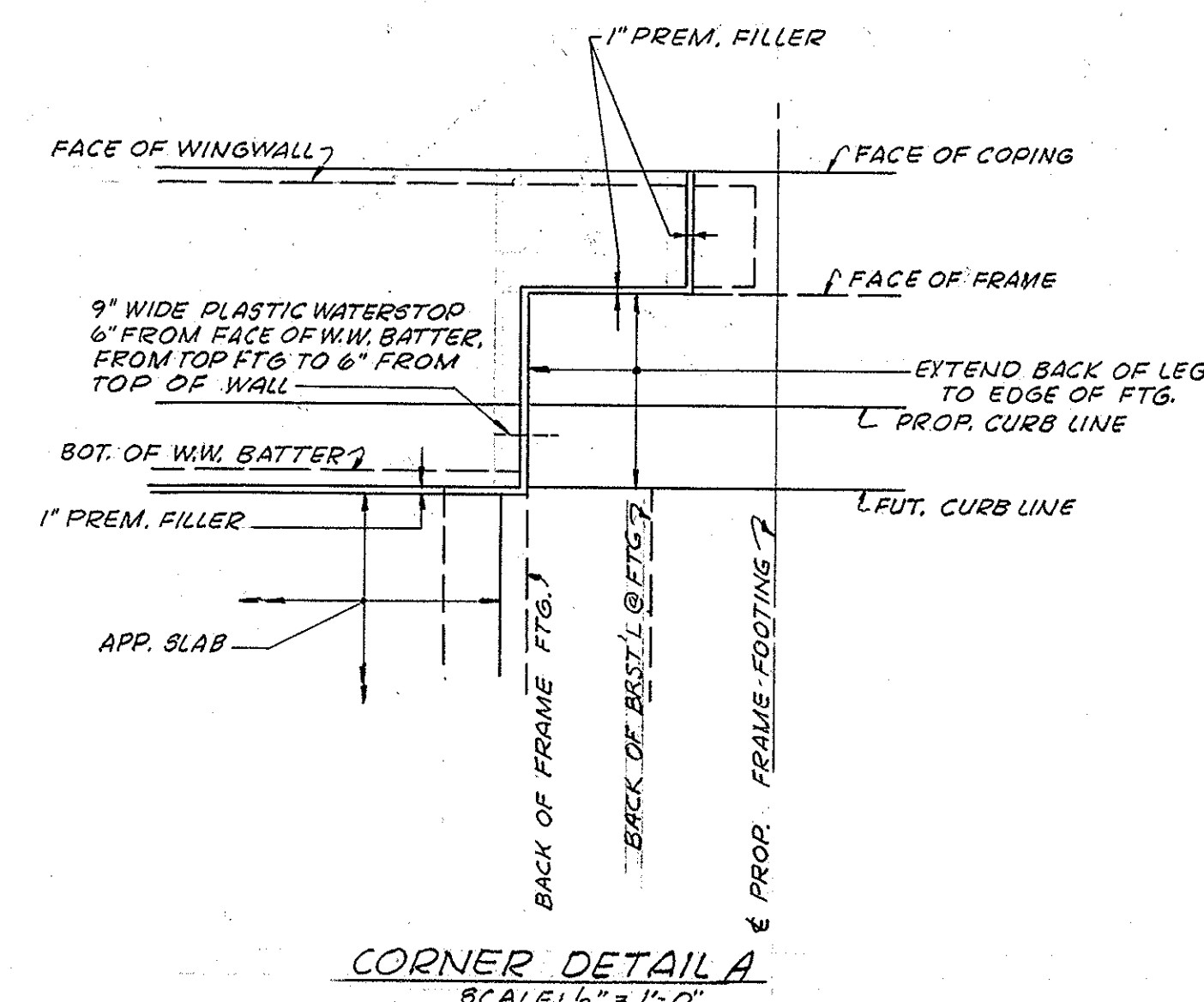
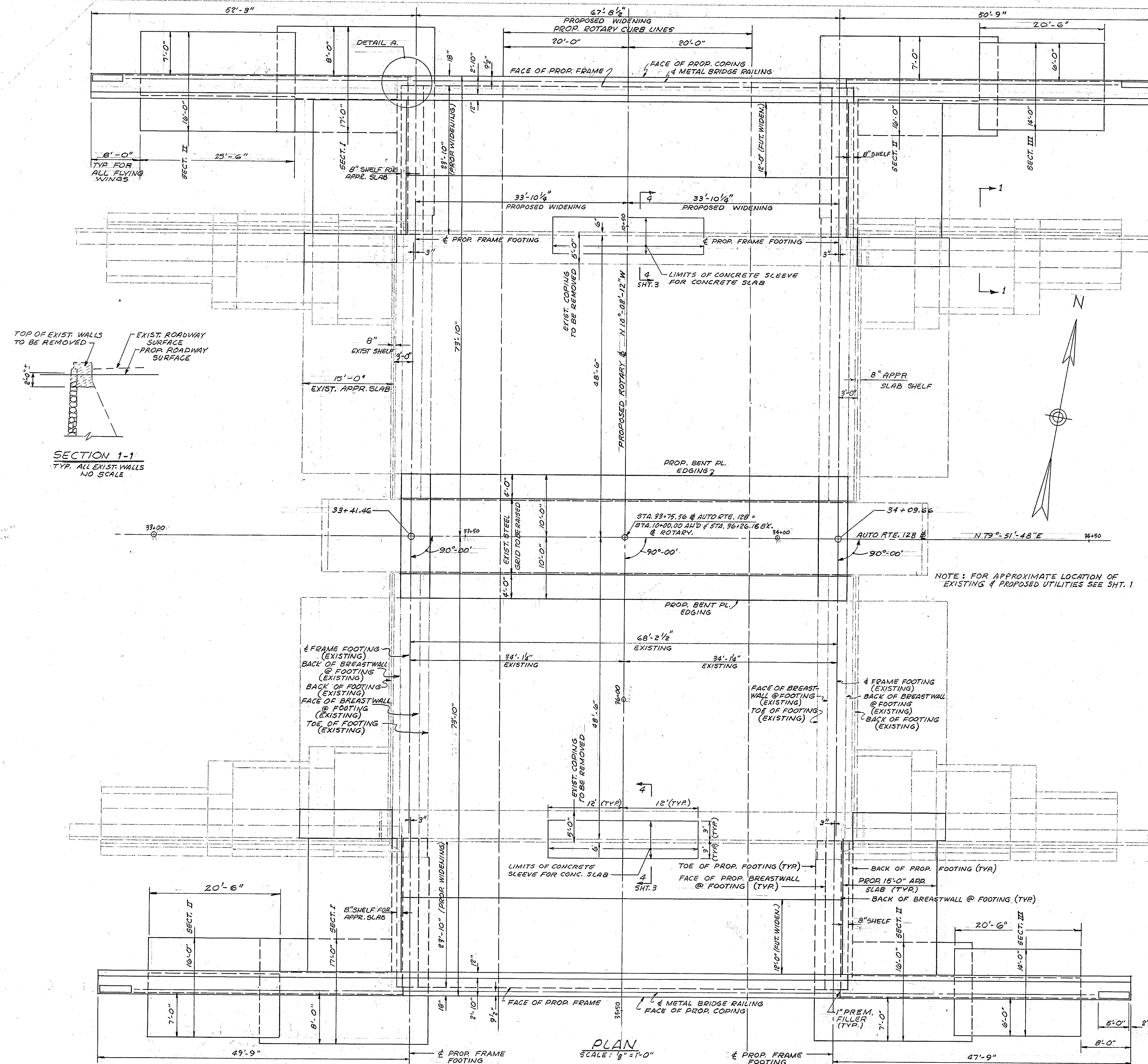
BORING NOTES

LOCATION OF BORINGS 1-12 SHOWN ON KEY PLAN THUS (C) No. 1
LOCATION OF BORINGS A-H SHOWN ON KEY PLAN THUS (B) (BORING A NOT TAKEN)
BORINGS TAKEN FOR PURPOSES OF DESIGN AND SHOW CONDITIONS AT BORING POINTS ONLY, BUT DO NOT NECESSARILY SHOW NATURE OF MATERIAL TO BE ENCOUNTERED IN CONNECTION WITH THE CONSTRUCTION OF THE BRIDGE.
FOR BORINGS 1-12, FIGURES IN COLUMNS INDICATE BLOWS PER FOOT ON A 1" PIPE PRODUCED BY A 30" DROP OF A 140# HAMMER.
FOR BORINGS A-H, FIGURES IN COLUMNS INDICATE BLOWS PER FOOT ON A 2" PIPE PRODUCED BY A 30" DROP OF A 140# HAMMER ON SAMPLER; 24" DROP OF A 300# HAMMER ON CASING.
SAMPLES FOR BORINGS 1-12 ARE NO LONGER AVAILABLE.
SAMPLES FROM BORINGS A-H MAY BE SEEN AT THE DEPARTMENT'S LABORATORY IN THE MAINTENANCE BUILDING ON RTE. 9 IN WELLESLEY.



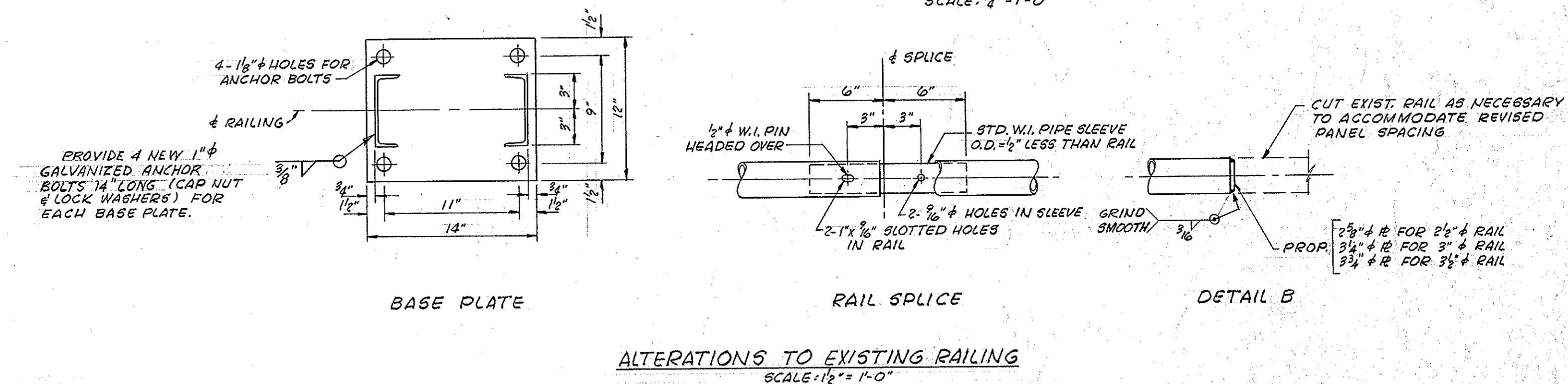
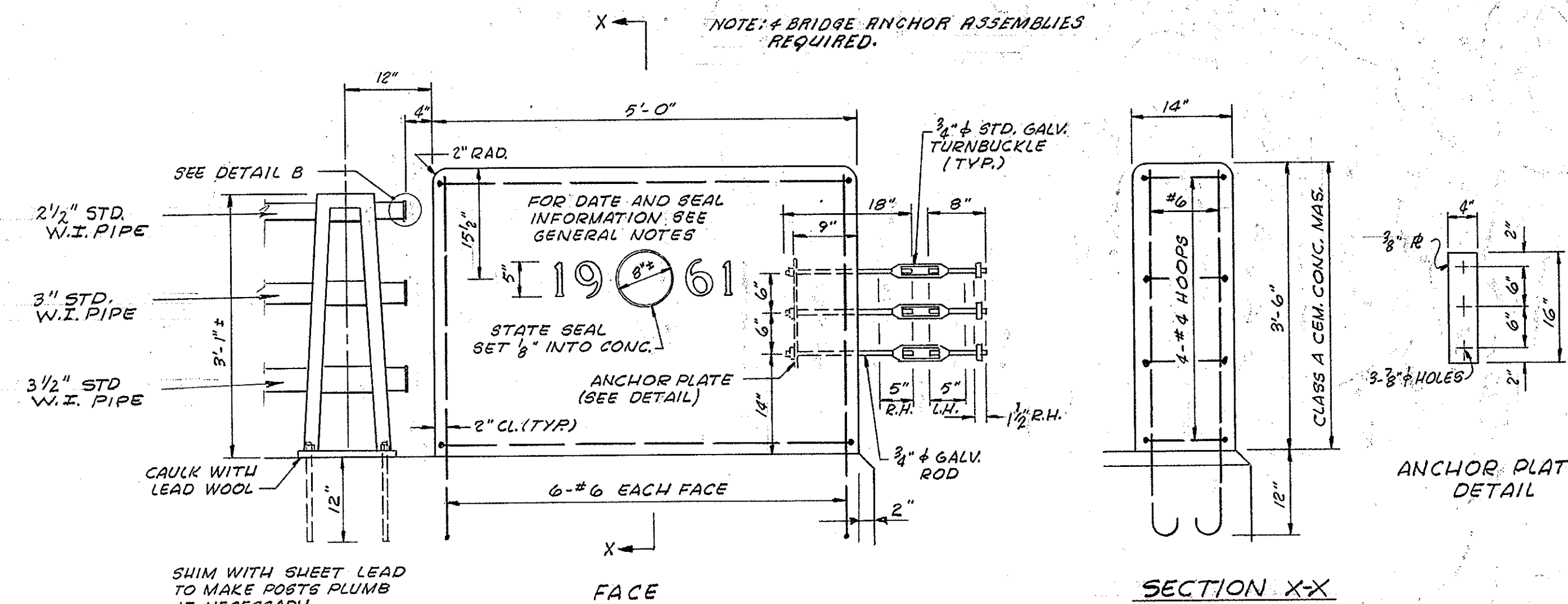
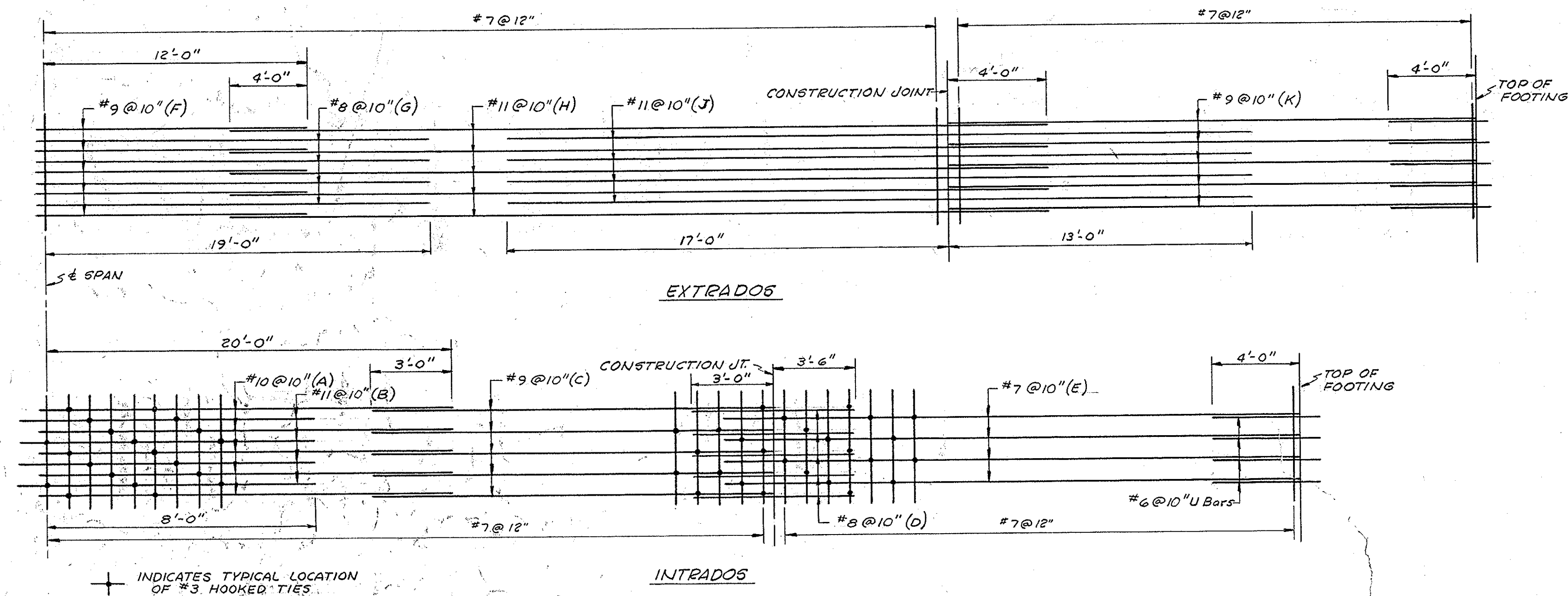
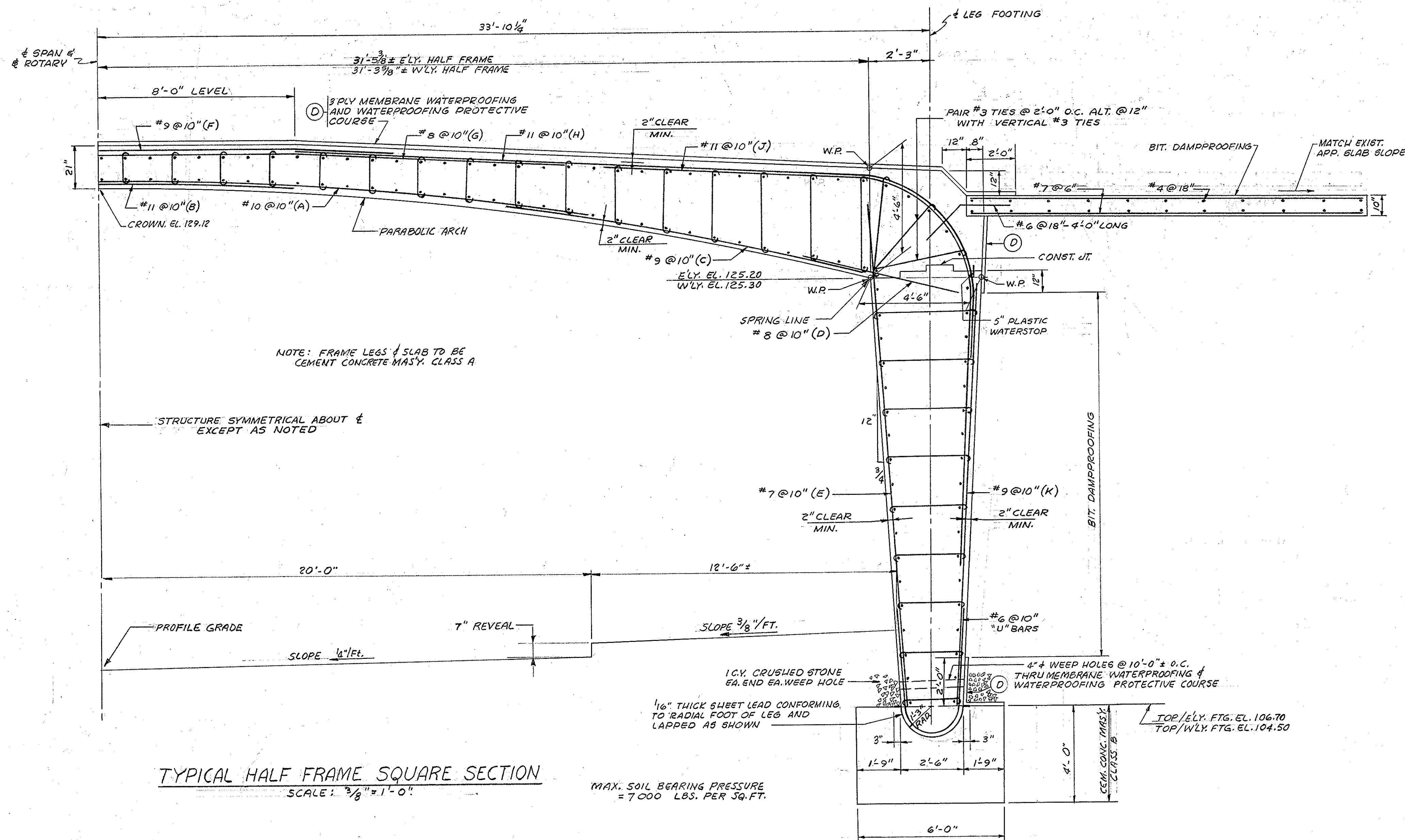
DESIGNING ENGINEER
UTILITY ENGINEERS, INC.
BOSTON, MASS.

OCT. 28, 1961		ISSUED FOR CONSTRUCTION	
THE COMMONWEALTH OF MASSACHUSETTS			
PROPOSED BRIDGE			
WIDENING			
WOBURN			
AUTO ROUTE 128 STATION (93 + 75.56)			
OVER MAIN STREET ROTARY EASTERLY BRIDGE			
SCALES AS NOTED			
OFFICE OF DEPARTMENT OF PUBLIC WORKS 100 NASHUA ST., BOSTON, MASS. OCT. 1961			
BRIDGE ENGINEER		CHIEF ENGINEER	
SHEET 1 OF 4 SHEETS BRIDGE NO. W-43-31			



WINGWALL DIMENSIONS AND BAR SCHEDULE			
	SECT. I	SECT. II	SECT. III
DIST. A	17'-0"	16'-0"	14'-0"
DIST. B	7'-0"	7'-0"	6'-0"
DIST. C	3'-0"	3'-0"	2'-6"
BAR A	#8@4'- $\frac{1}{2}$ "	#8@4'- $\frac{1}{2}$ "	#8@9'- $\frac{1}{2}$ " (ALT. @ 4'- $\frac{1}{2}$ ")
BAR B	#5@12'	#4@9'	#6@12'
BAR C	#10@12'	#6@6'	#7@9'
BAR D	#9@9'- $\frac{1}{2}$ " #8@9'- $\frac{1}{2}$ " (ALT. @ 9'- $\frac{1}{2}$ ")	#8@9'- $\frac{1}{2}$ " #7@9'- $\frac{1}{2}$ " (ALT. @ 9'- $\frac{1}{2}$ ")	#8@9'- $\frac{1}{2}$ " #7@9'- $\frac{1}{2}$ " (ALT. @ 4'- $\frac{1}{2}$ ")
BAR E	#7@9'	#6@9'	#7@9'
BAR F	#7@9'	#5@9'	#6@10'
LAP A	2'-3"	2'-0"	2'-6"
LAP B	3'-0"	2'-6"	2'-3"

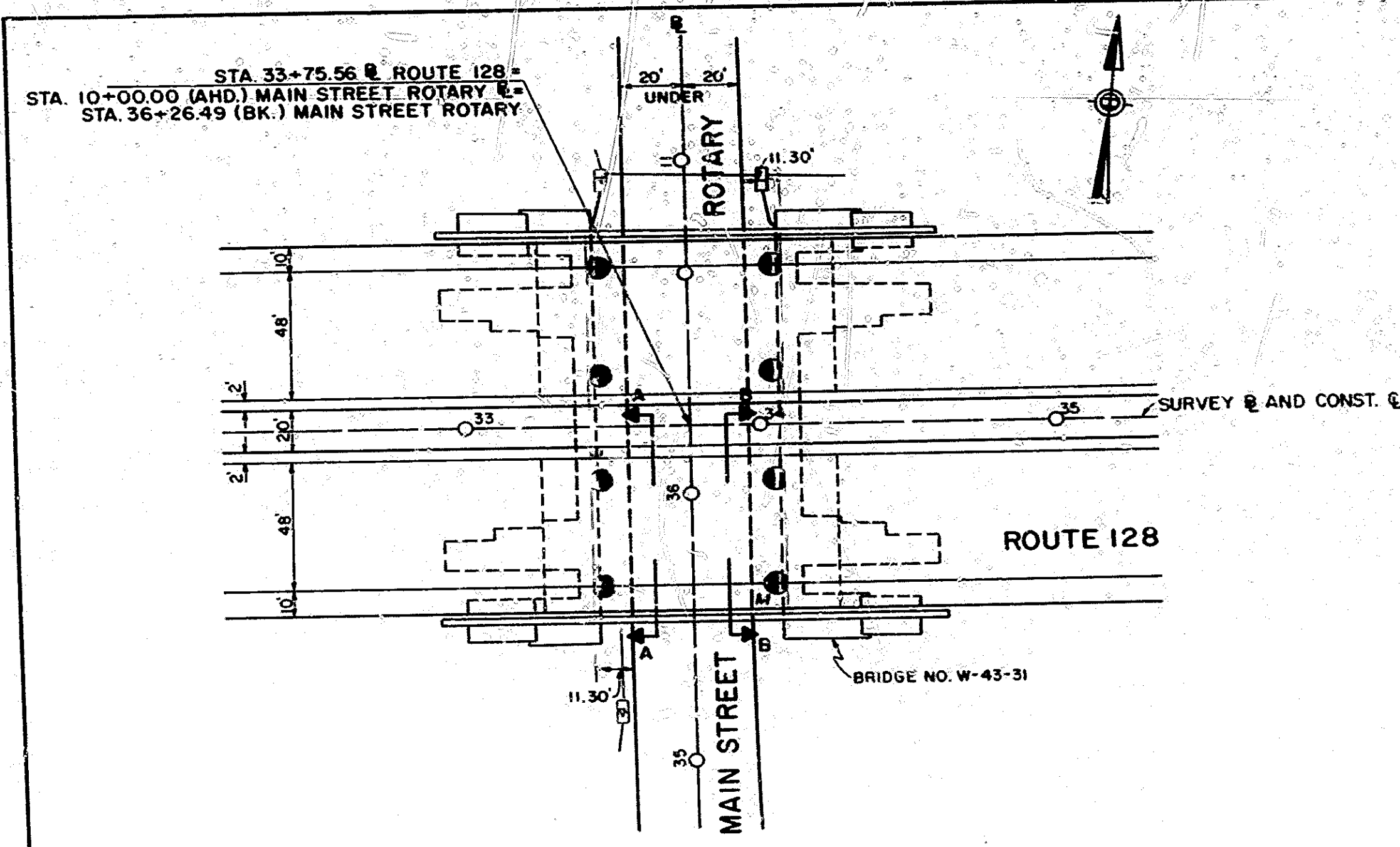
PUB. RD. DIV. NO.	STATE	FEDERAL AID PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	MASS.	U2721	196	54	149



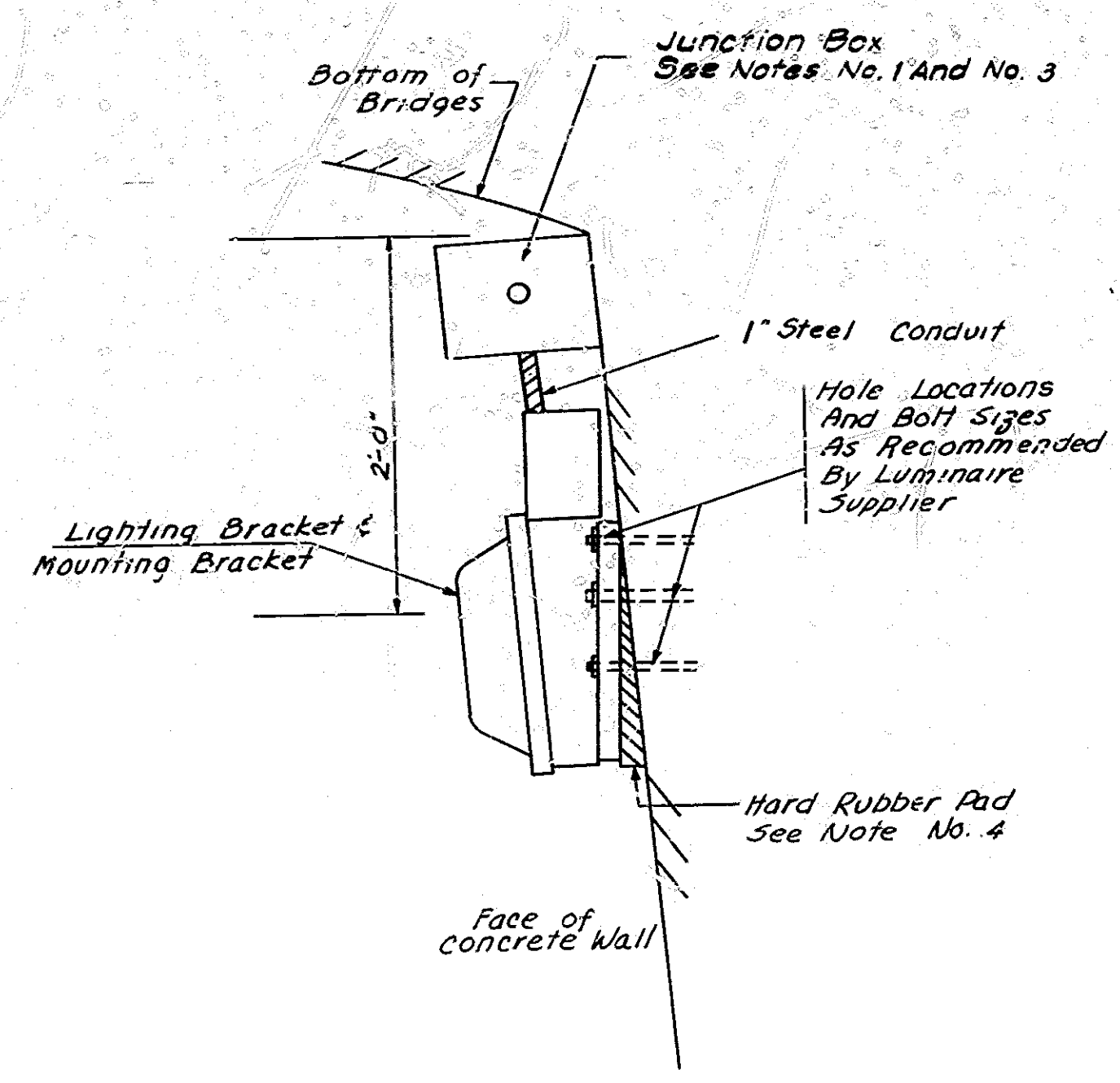
7286

WOBURN ROUTE 128						
PUB. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS	
1	MASS	EHS-7-000S(1)	19	66	67	

UNDERDECK LIGHTING DETAILS
BRIDGE No. W-43-31

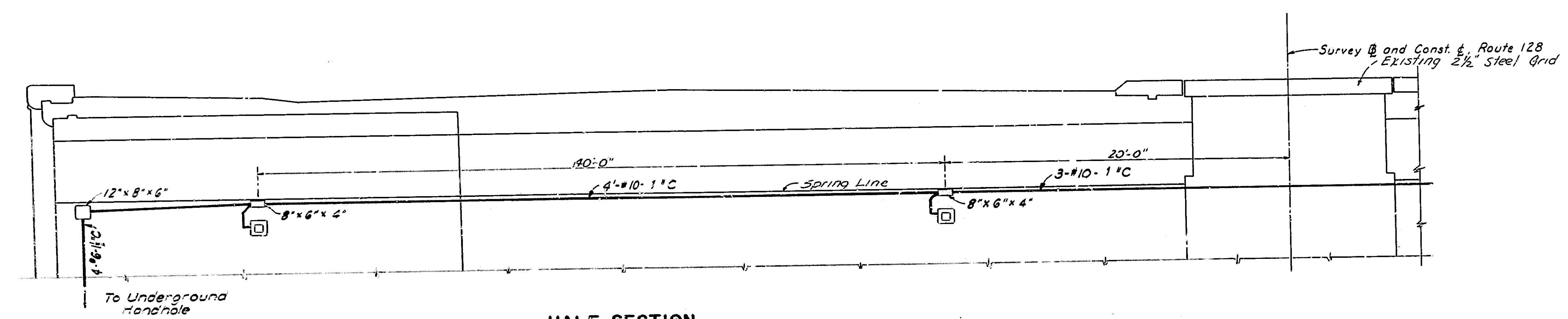


BRIDGE PLAN
ROUTE 128 OVER MAIN STREET ROTARY--EAST
SCALE: 1" = 40'



MOUNTING DETAIL
SCALE: 1 1/2" = 1'-0"

- NOTES:
1. JUNCTION BOX ADJACENT TO LUMINAIRE TO BE HOT DIPPED GALVANIZED CAST IRON WITH GASKET, BOSSES, AND MOUNTING LUGS AS REQUIRED.
 2. SEE SHEET NO. 17 FOR MAIN FEED JUNCTION BOXES AND CONDUIT DETAILS.
 3. JUNCTION BOX SHALL BE FASTENED TO CONCRETE WALL WITH 2 UNITS - 3/8" Ø EXPANSION ANCHOR BOLTS.
 4. FIXTURES ON SLOPED WALL SHALL BE MOUNTED WITH NEOPRENE PAD TO SET THE LUMINAIRE MOUNTING BRACKET TO A VERTICAL POSITION.
 5. UNDERDECK LUMINAIRE LAYOUT SYMMETRICAL ABOUT SURVEY BASELINE.



HALF SECTION
SECTION "A-A" (Scale: 1/4" = 1'-0")
SECTION "B-B" (Opposite)