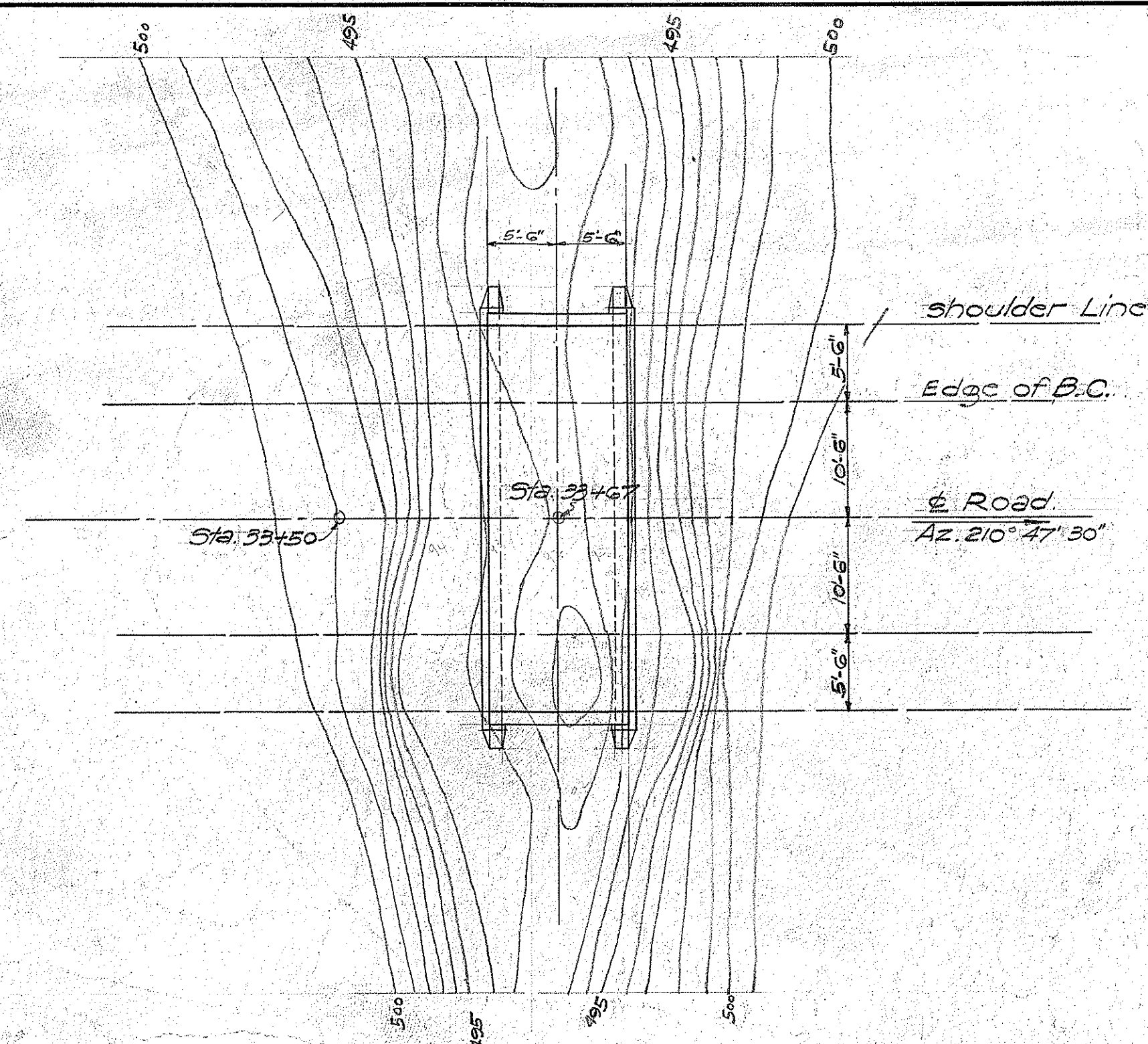
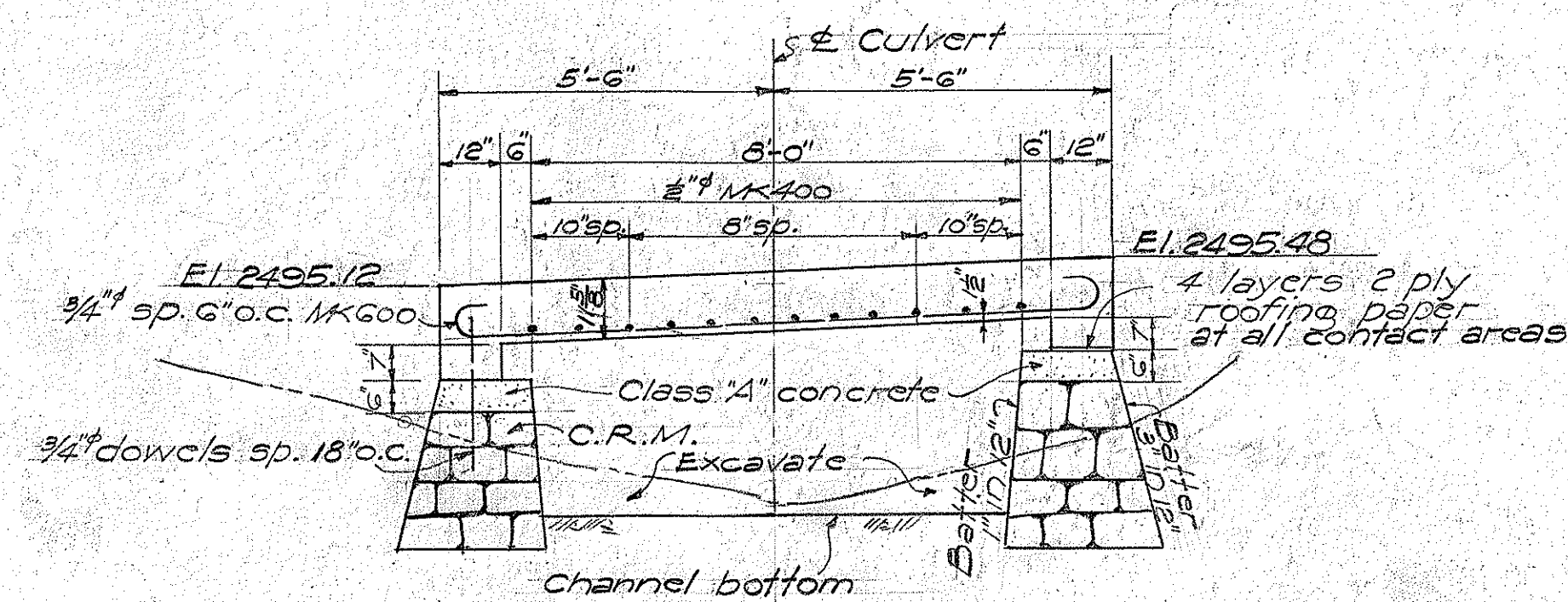
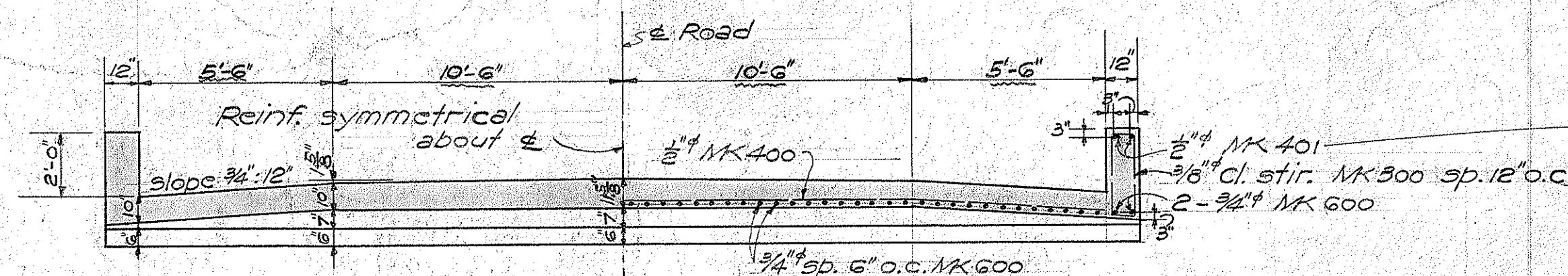




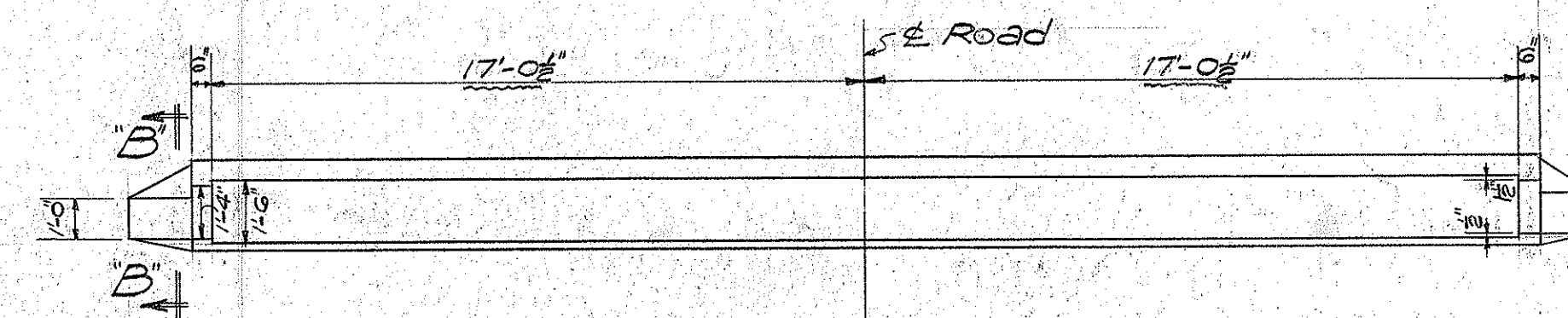
PLAN
Scale 1" = 10'



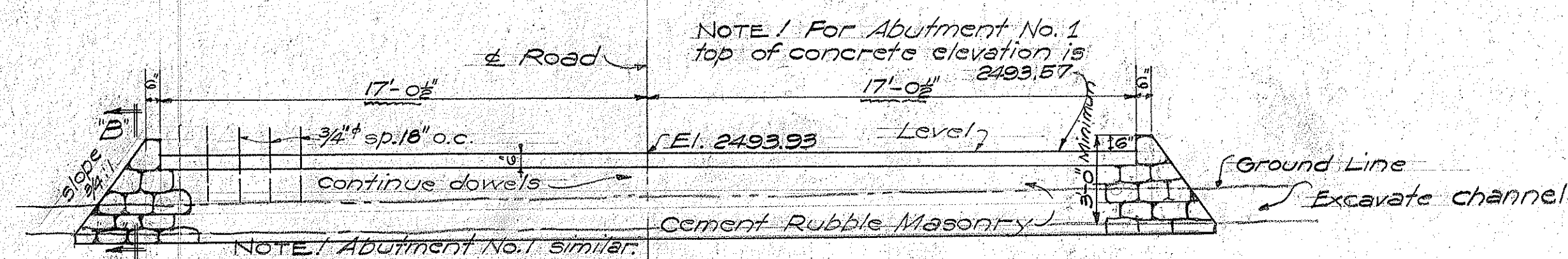
SECT. ALONG & ROAD
Scale $\frac{3}{8}'' = 1'-0''$



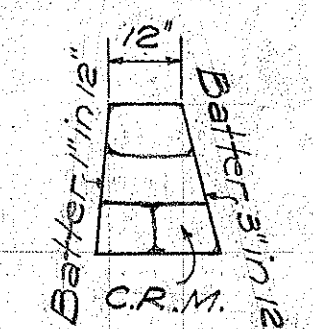
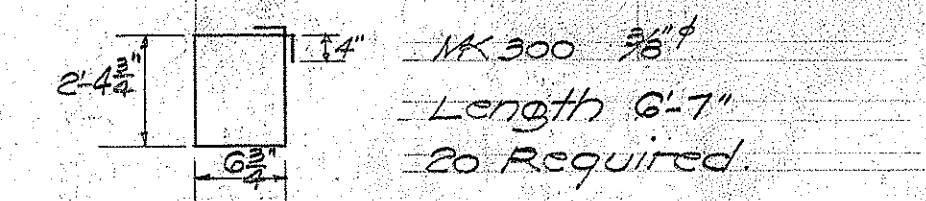
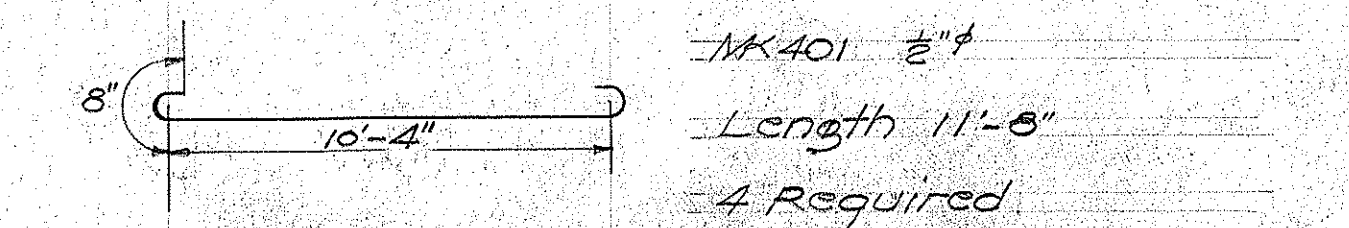
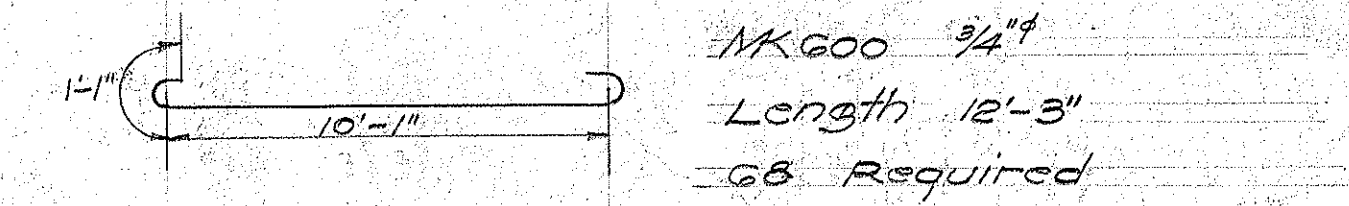
SECTION A-A
Scale $\frac{3}{4}" = 1'-0"$



PLAN-ABUTMENT.
Scale $\frac{1}{4}'' = 1'-0''$

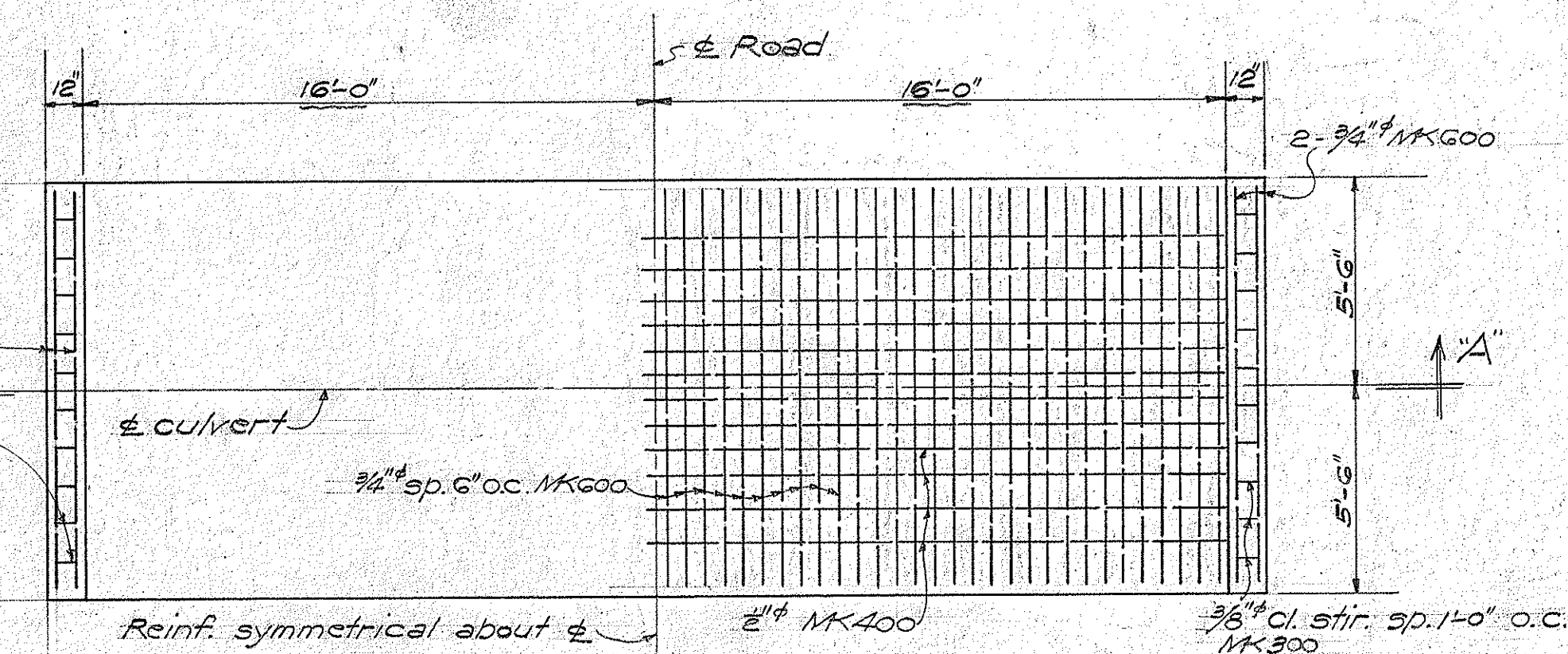


ABUTMENT NO. 2
Scale $\frac{1}{4}'' = 1'-0''$



SECT. B-B.
Scale $\frac{3}{8}'' = 1'-0''$

ESTIMATED QUANTITIES	
CONCRETE CLASS "A"	17.2 C.Y.
REINF. STEEL	1690 LBS.
C.R. MASONRY	78 C.Y.
STR. EXCAVATION	19 C.Y.
CHANNEL EXC.	6 C.Y.



SLAB REINF.

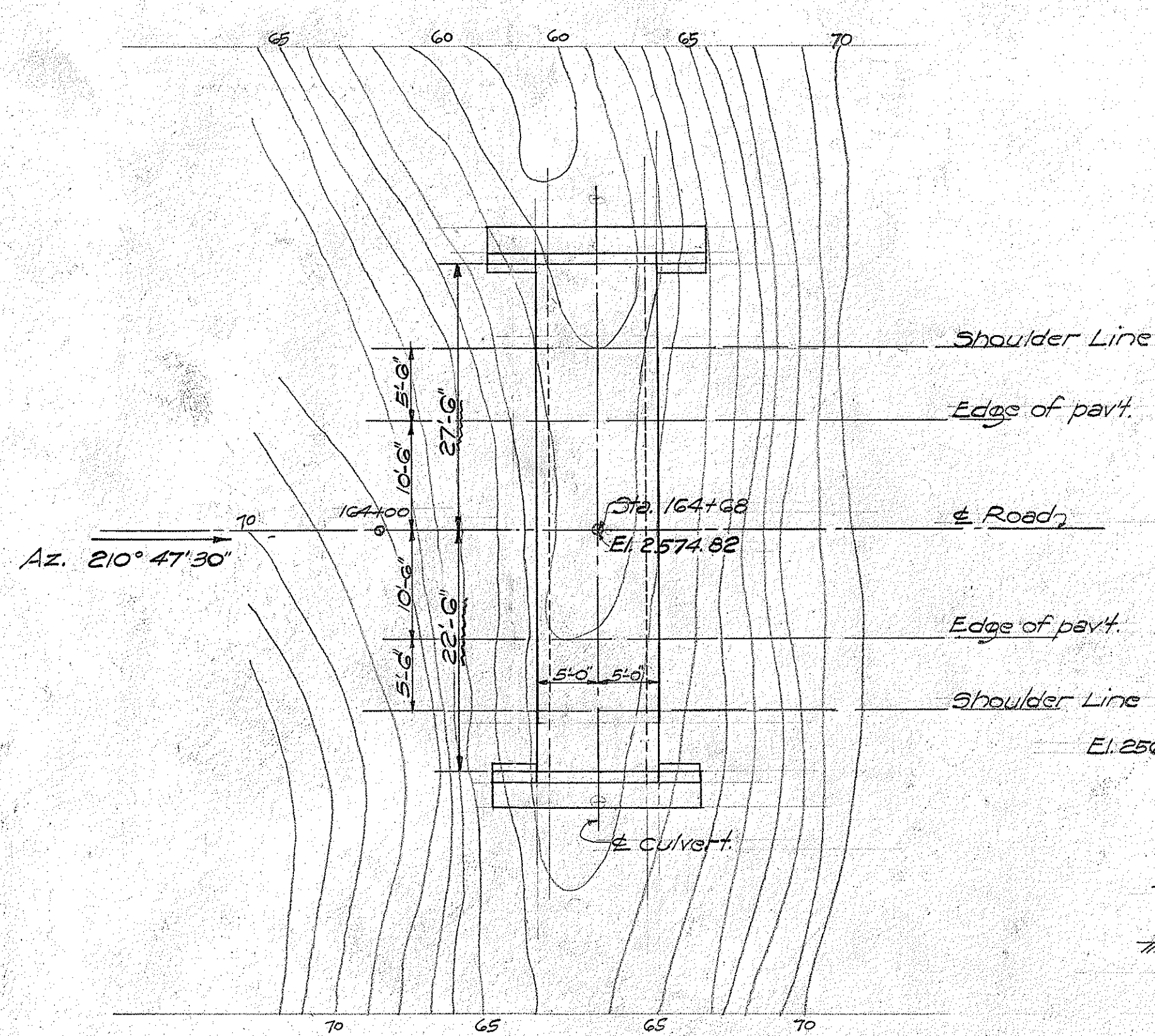
TERRITORIAL HIGHWAY DEPARTMENT
TERRITORY OF HAWAII

8' x 3' CULVERT

STA. 33+67

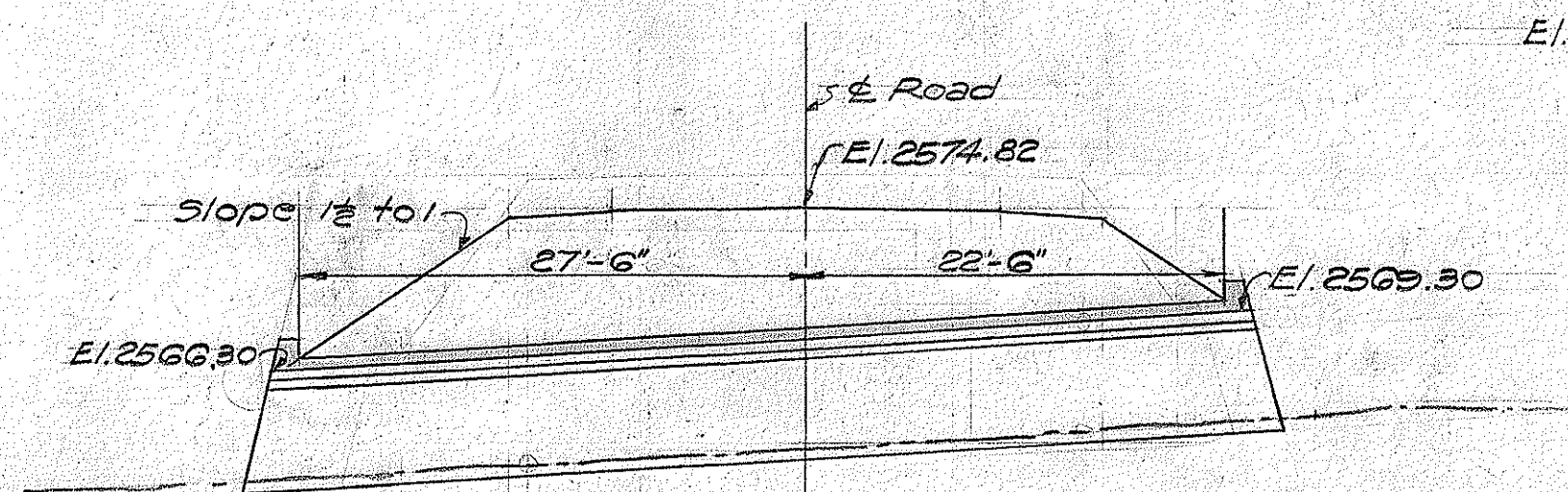
HAWAII BELT ROAD F.A.P. 10 C1
DECEMBER - 1938

SHEET NO OF SHEETS



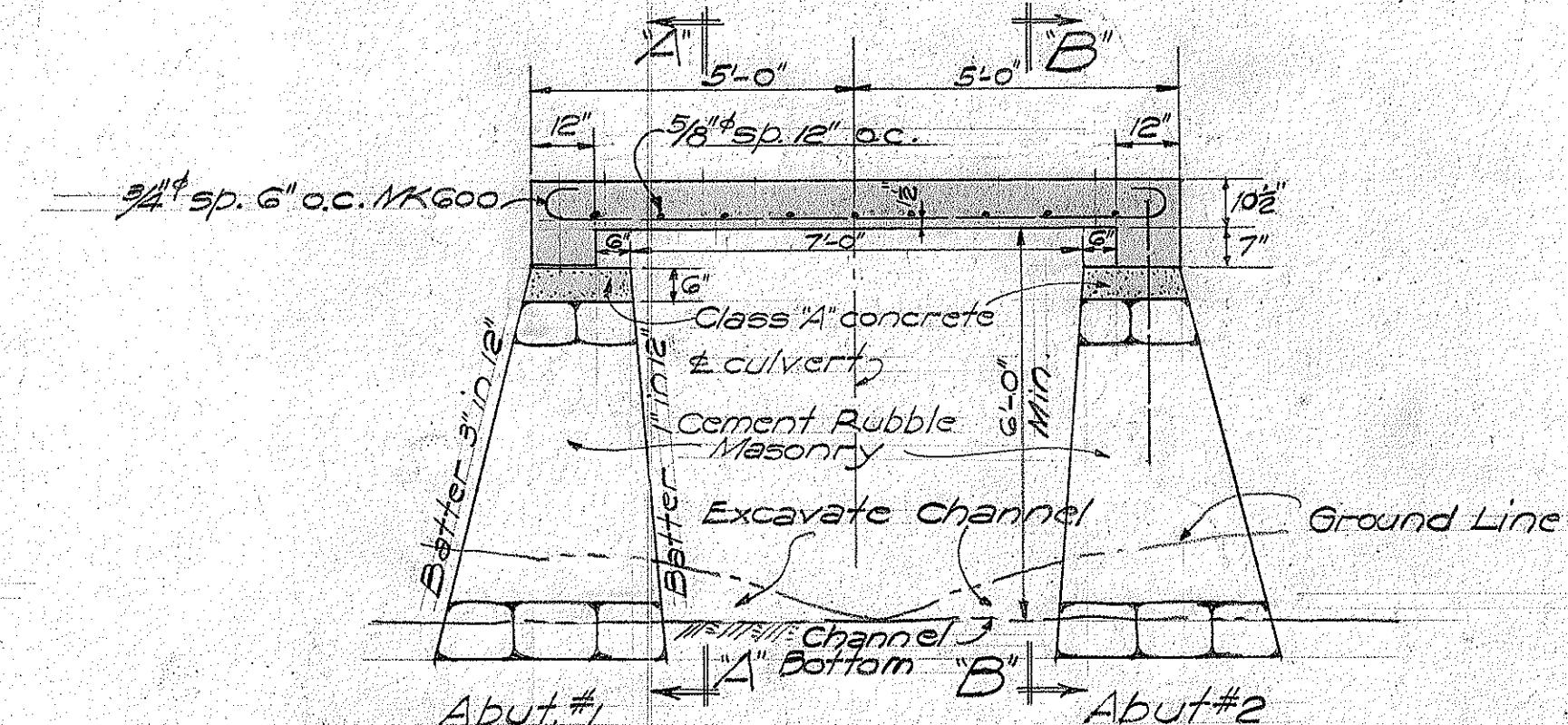
PLAN

Scale 1"=10'



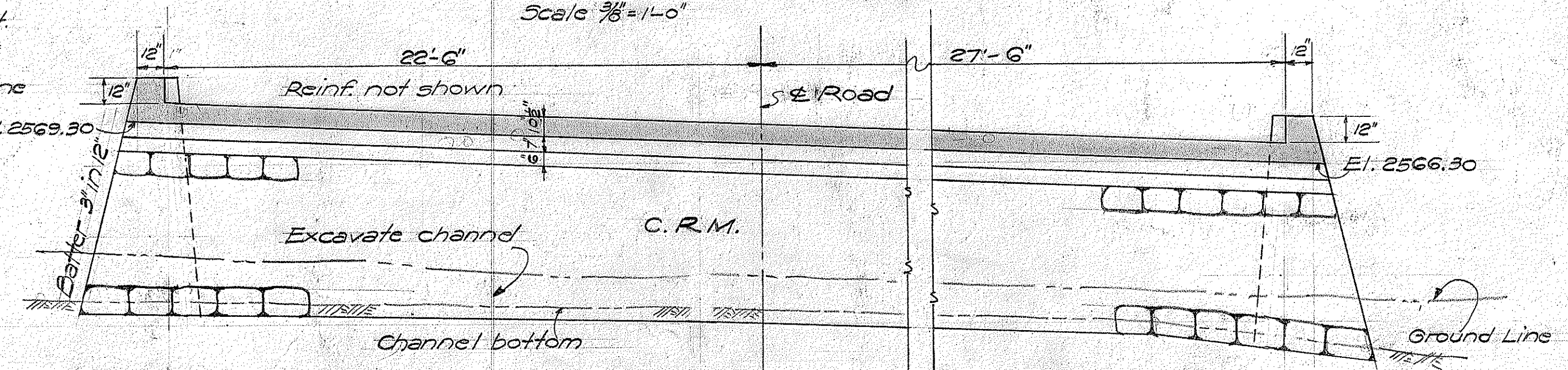
SECT. ALONG & CULVERT.

Scale 1"=10'



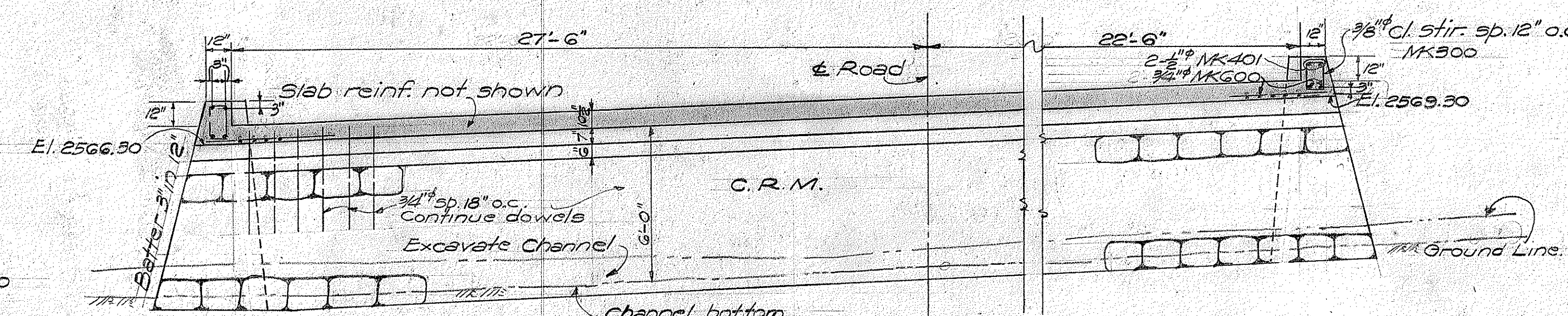
SECT. ALONG & ROAD

Scale 3/8"=1'-0"



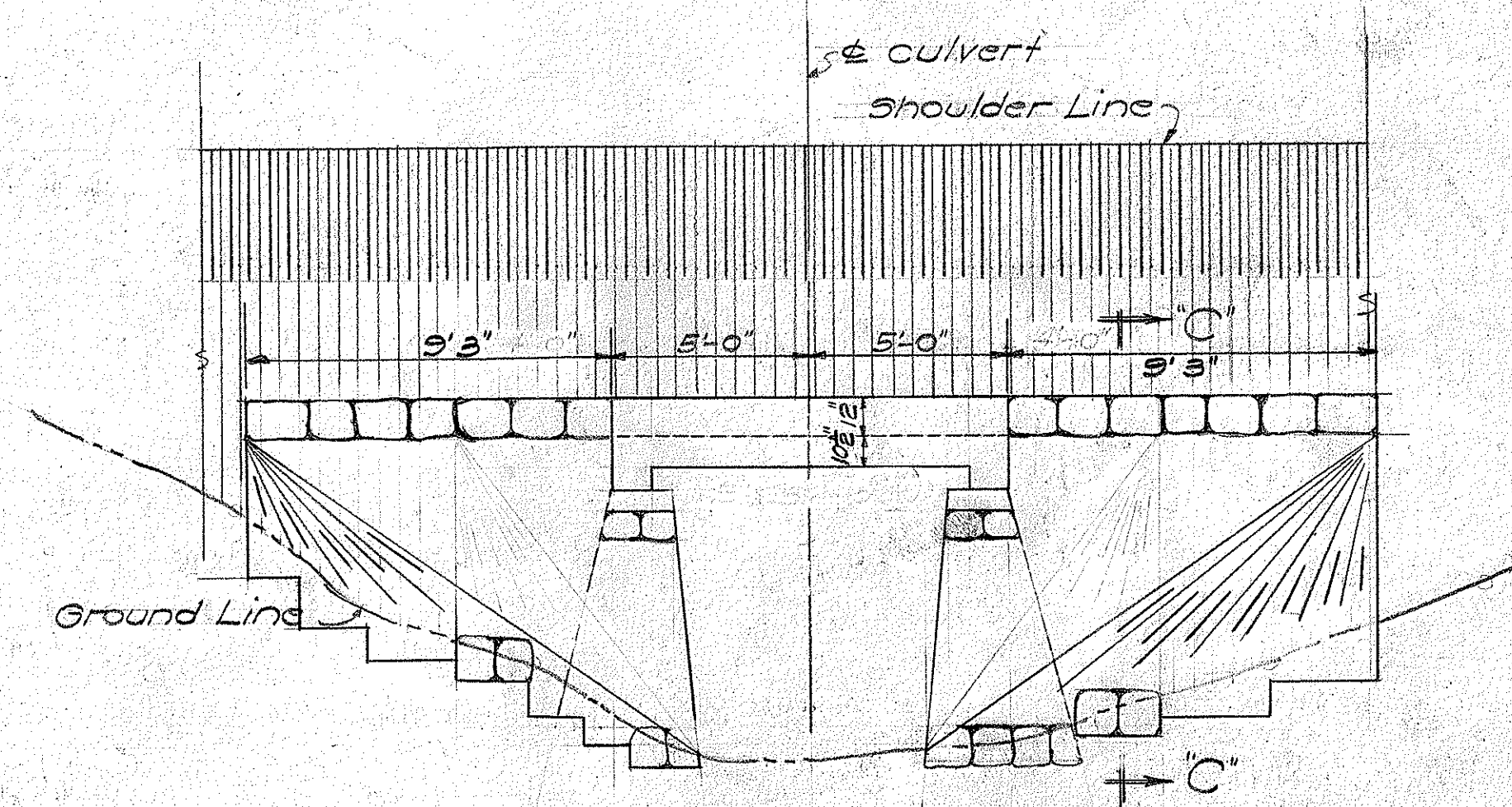
SECTION A-A

Scale 3/8"=1'-0"



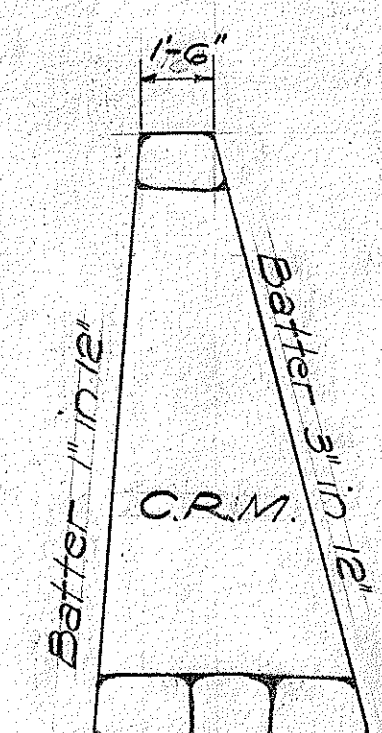
SECTION B-B

Scale 3/8"=1'-0"



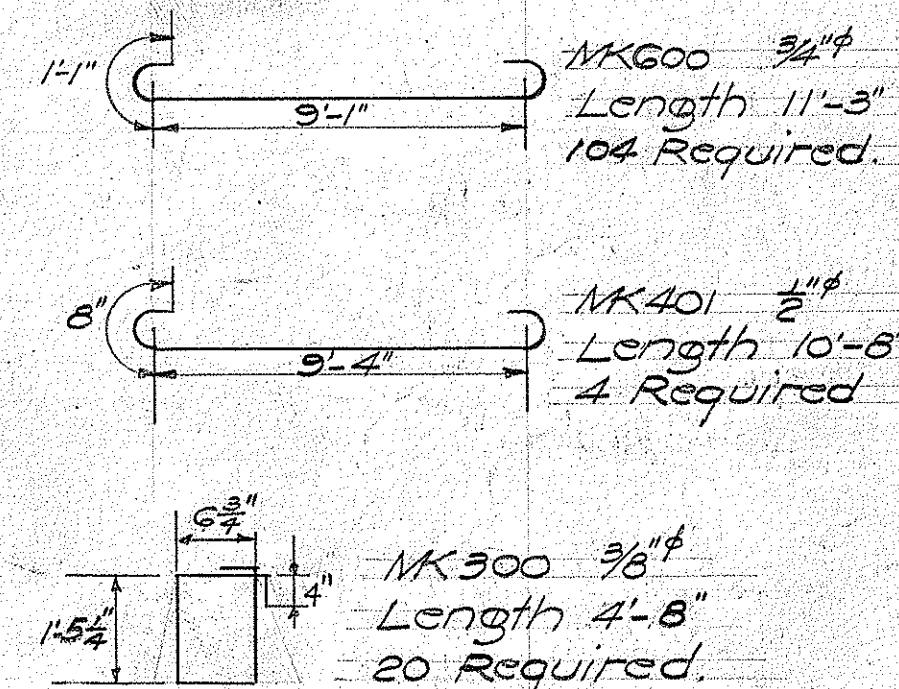
OUTLET HEADWALL

Scale 3/8"=1'-0"



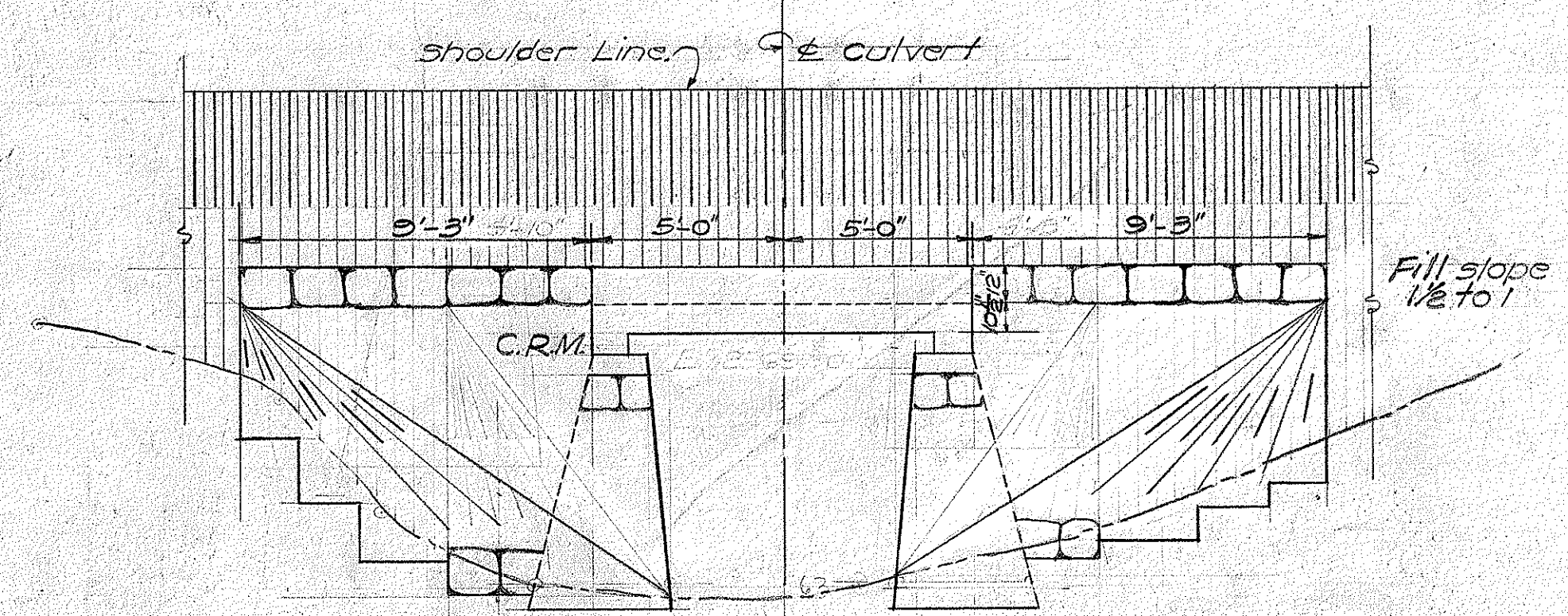
SECT. C-C

Scale 3/8"=1'-0"



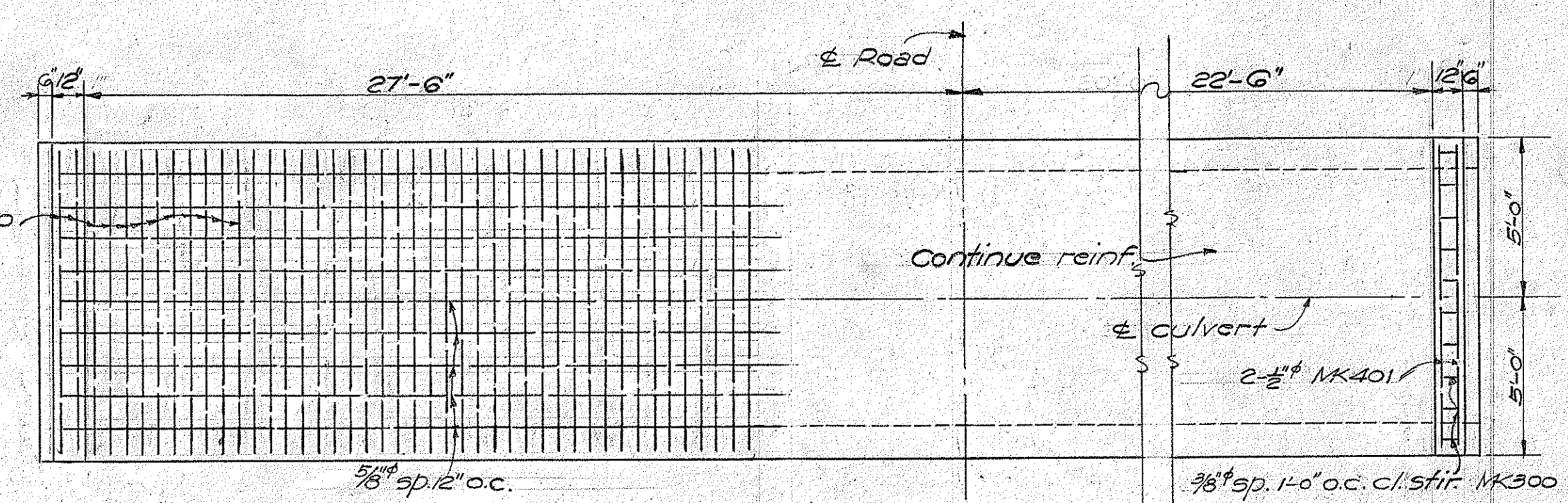
ESTIMATED QUANTITIES	
CONCRETE	22.4 C.Y.
REINF. STEEL	2220 LBS.
C.R. MASONRY	79 C.Y.
STR. EXCAVATION	45 C.Y.
CHANNEL EXC.	6 C.Y.

2529 LBS



INTAKE HEADWALL

Scale 3/8"=1'-0"



SLAB REINF.

Scale 3/8"=1'-0"

TERRITORIAL HIGHWAY DEPARTMENT
TERRITORY OF HAWAII

6'x6' CONC. CULVERT

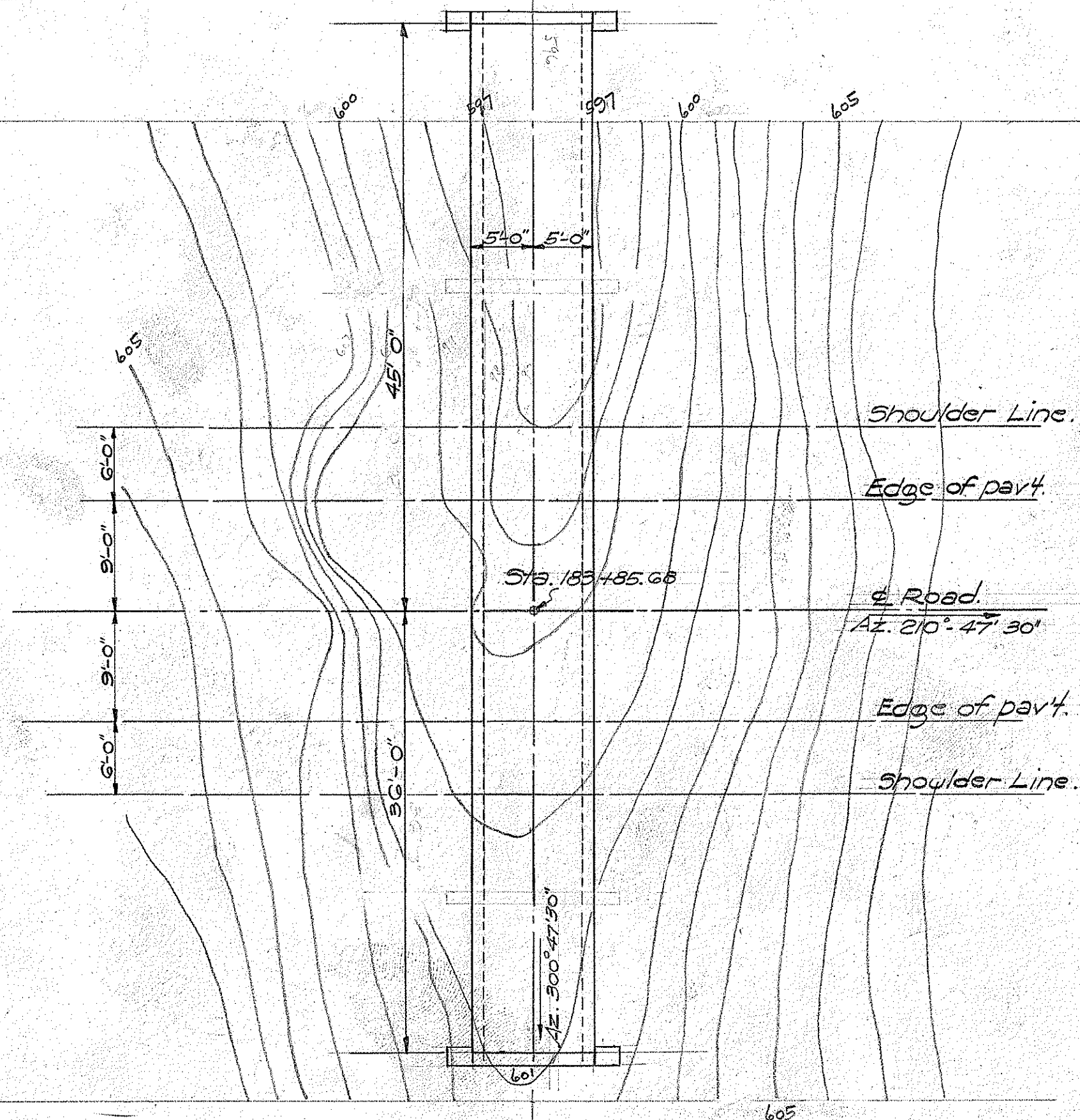
STA. 164+68

HAWAII BELT ROAD F.A.P. 100(1)
DECEMBER 1938

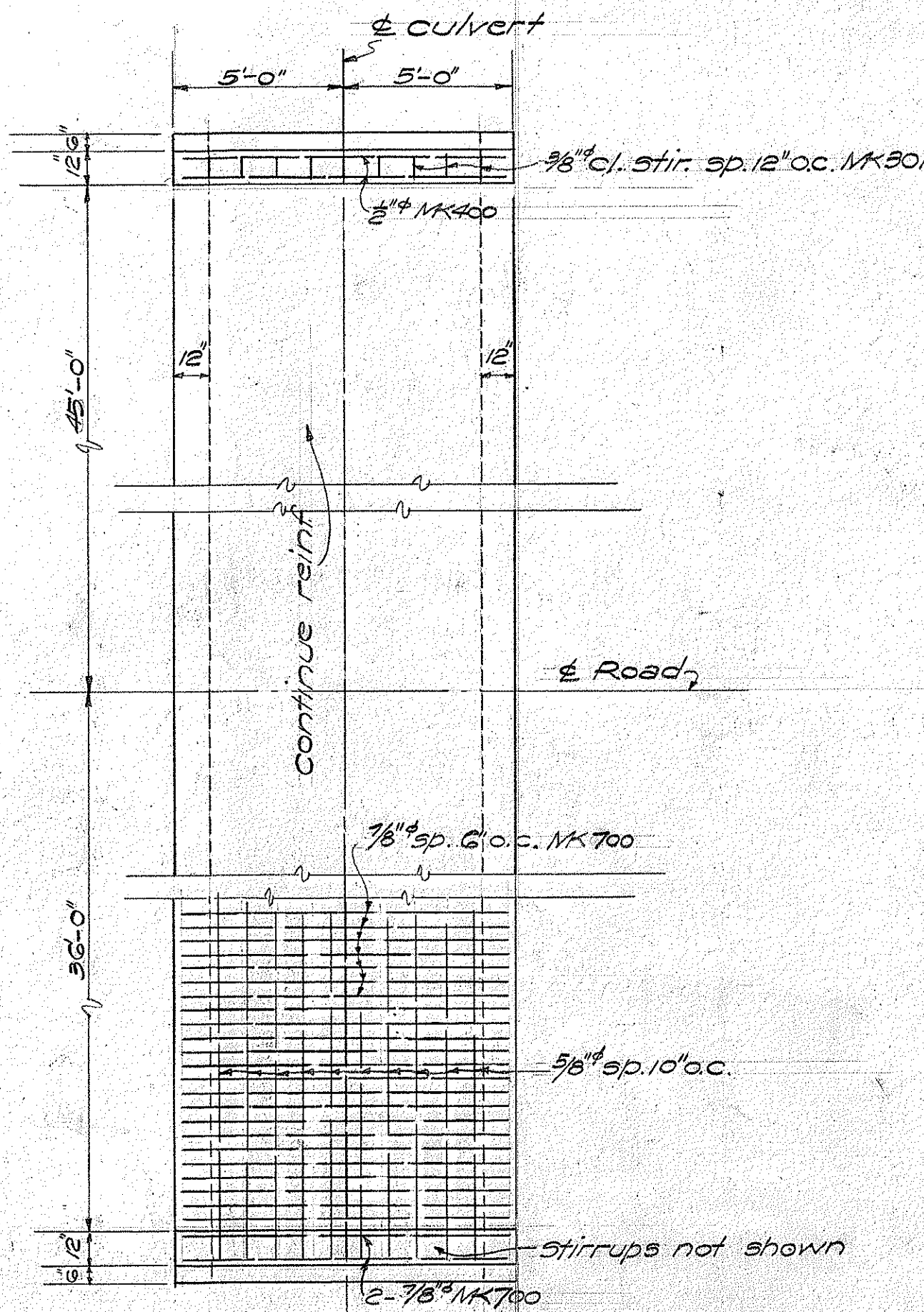
SHEET NO. OF SHEETS

4481.14

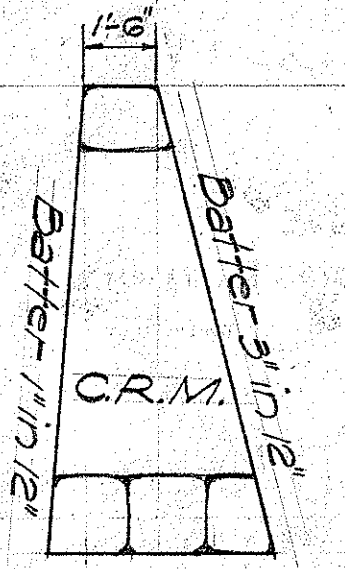
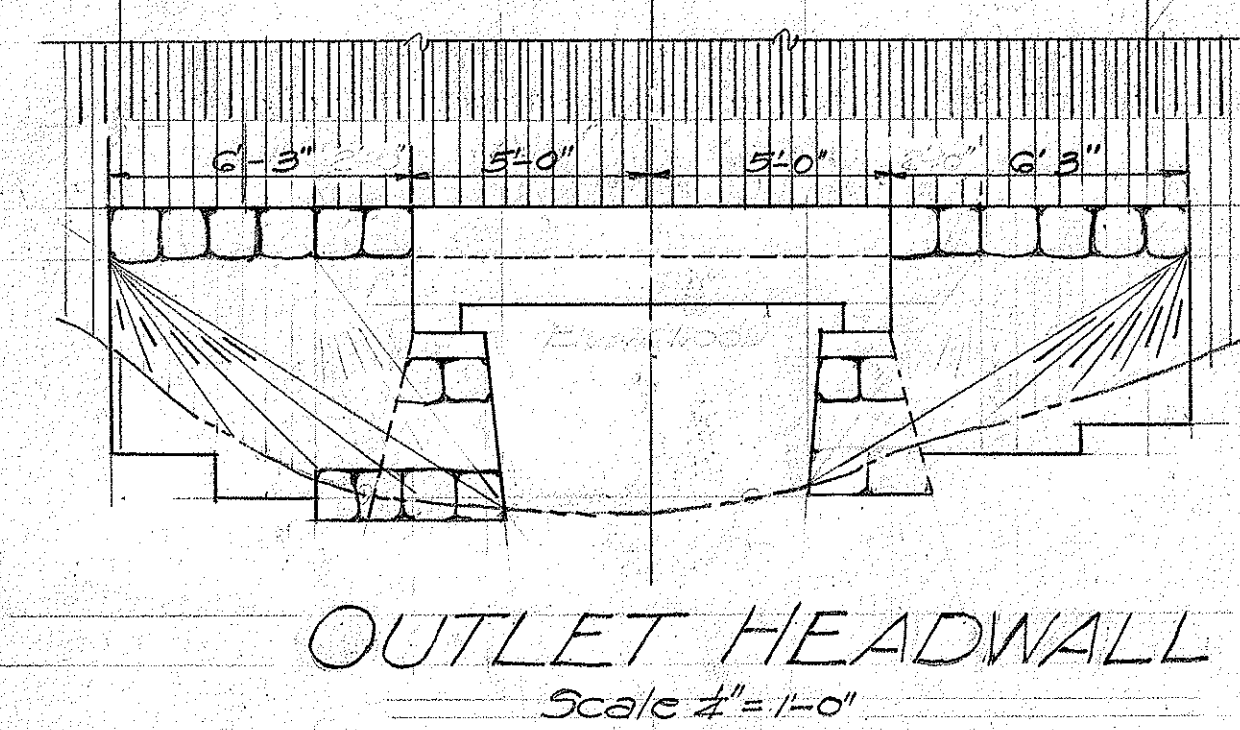
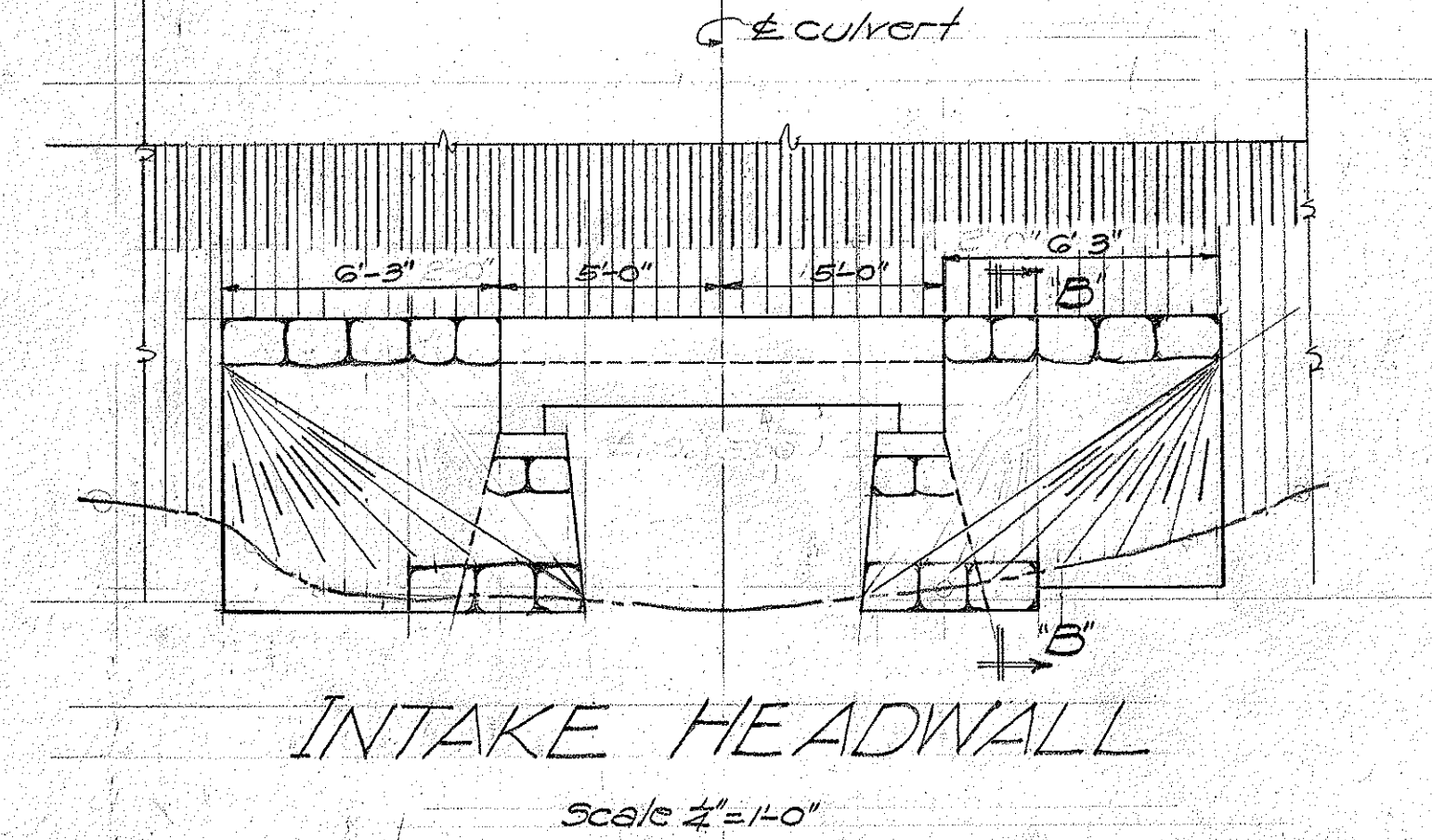
REVISION: 3/8" longitudinal slab bars changed to 3/8"
DATE: 12/15/38
DRAWN BY: T. J. HIGGINS
CHECKED BY: T. J. HIGGINS
NOTE BOOK
No.



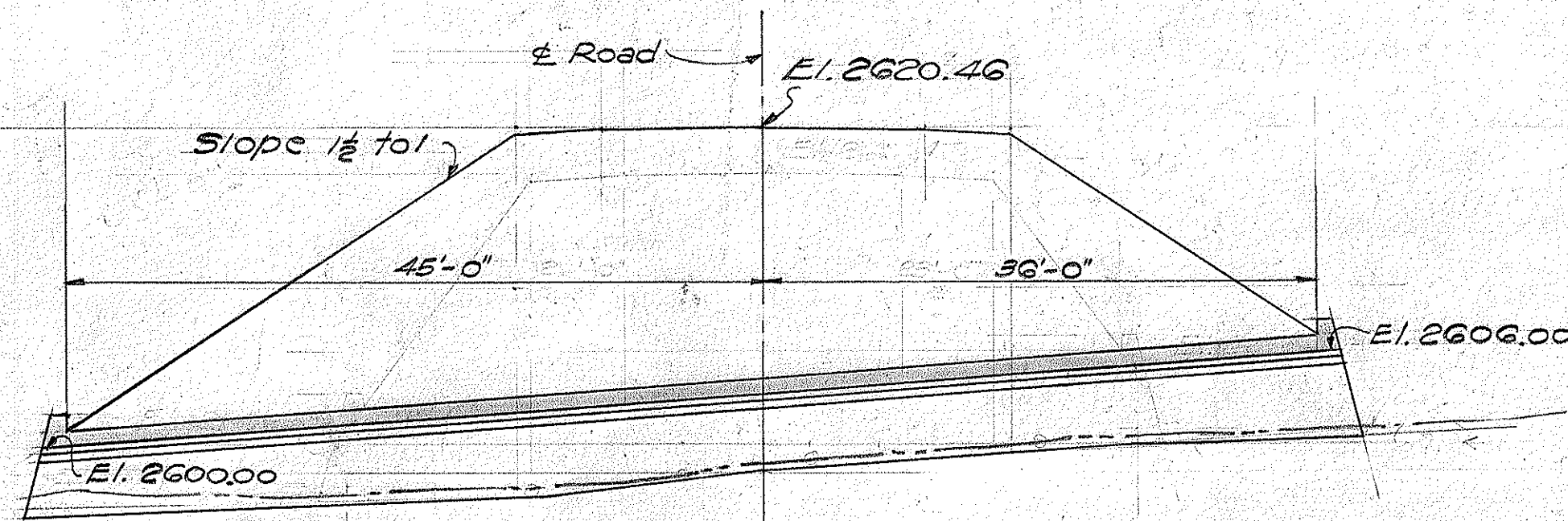
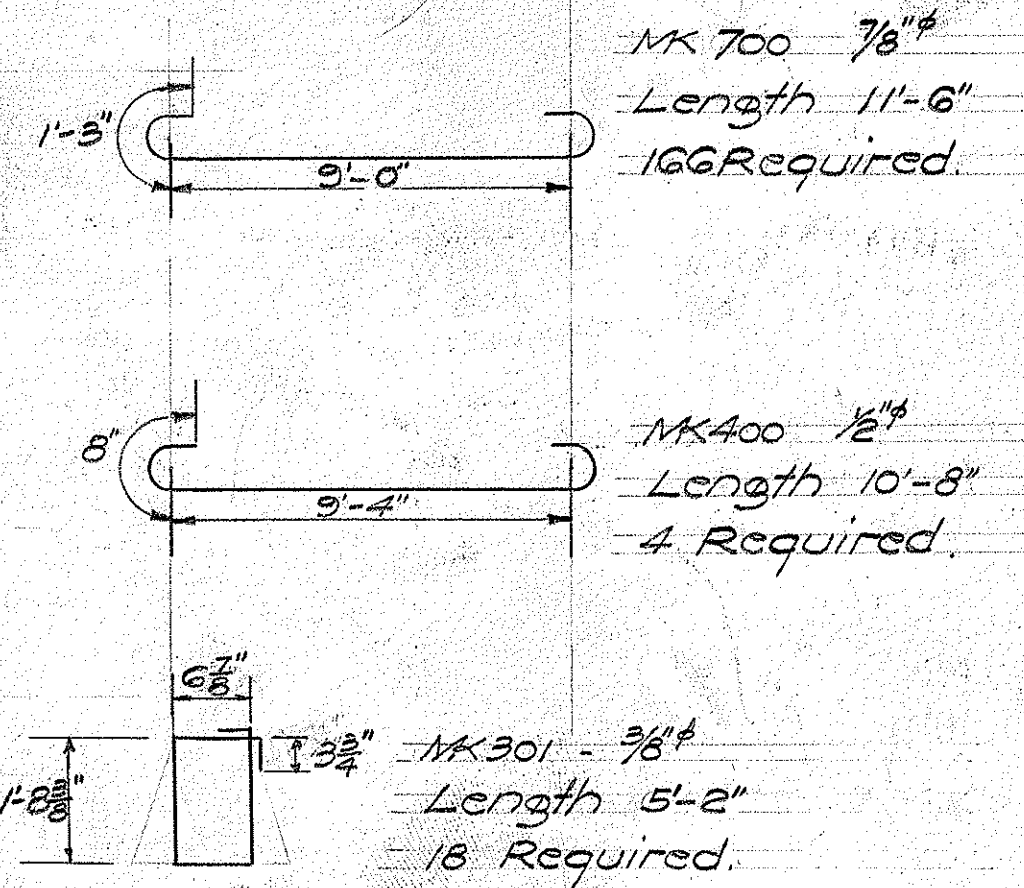
PLAN
Scale 1" = 10'



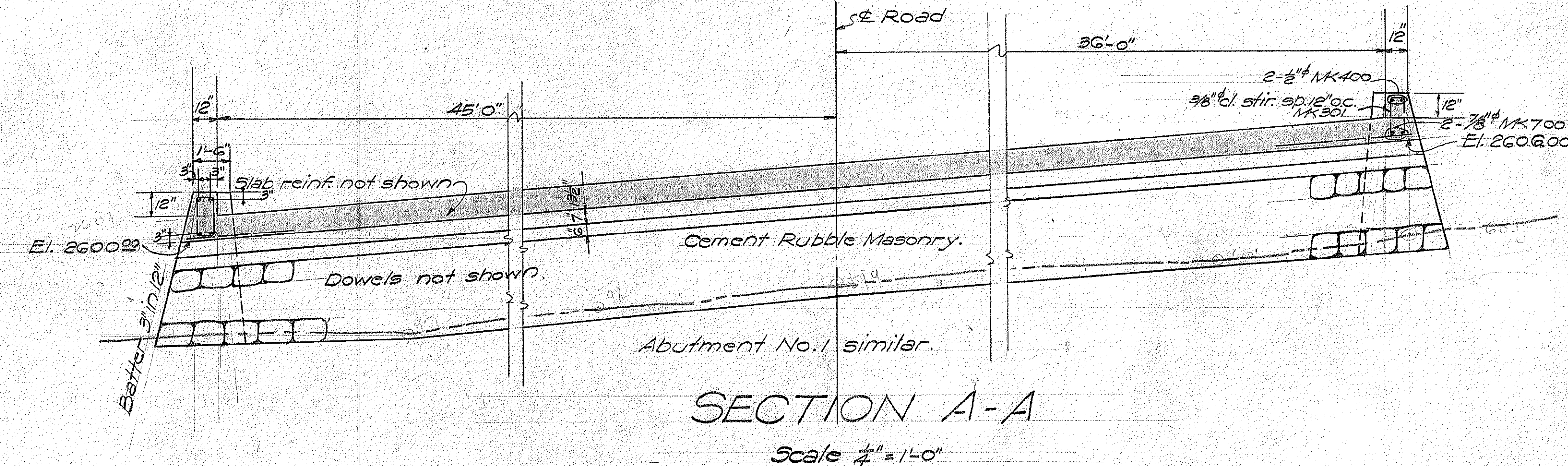
SLAB REINF.
Scale 1/4" = 1'-0"



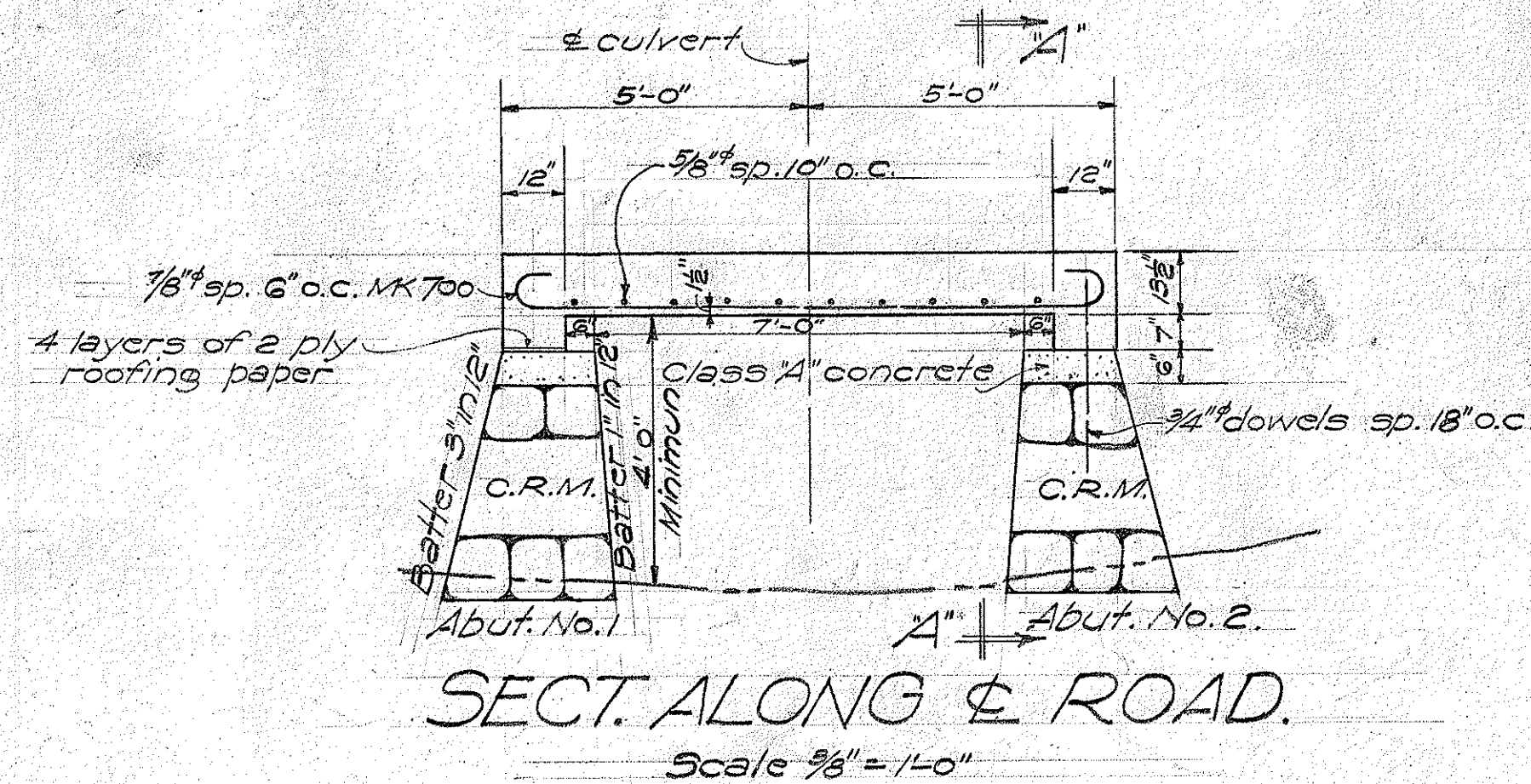
SECT. B-B
Scale 1/4" = 1'-0"



SECT. ALONG CULVERT.
Scale 1" = 10'



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



SECT. ALONG ROAD.
Scale 3/8" = 1'-0"

ESTIMATED QUANTITIES	
CONCRETE Class 'A'	44.4 C.Y.
REINF. STEEL	4400 LBS.
C.R. MASONRY	63.2 C.Y.
STR. EXCAVATION	40.0 C.Y.

5038 LBS.

TERRITORIAL HIGHWAY DEPARTMENT
TERRITORY OF HAWAII

6'x4' CULVERT.

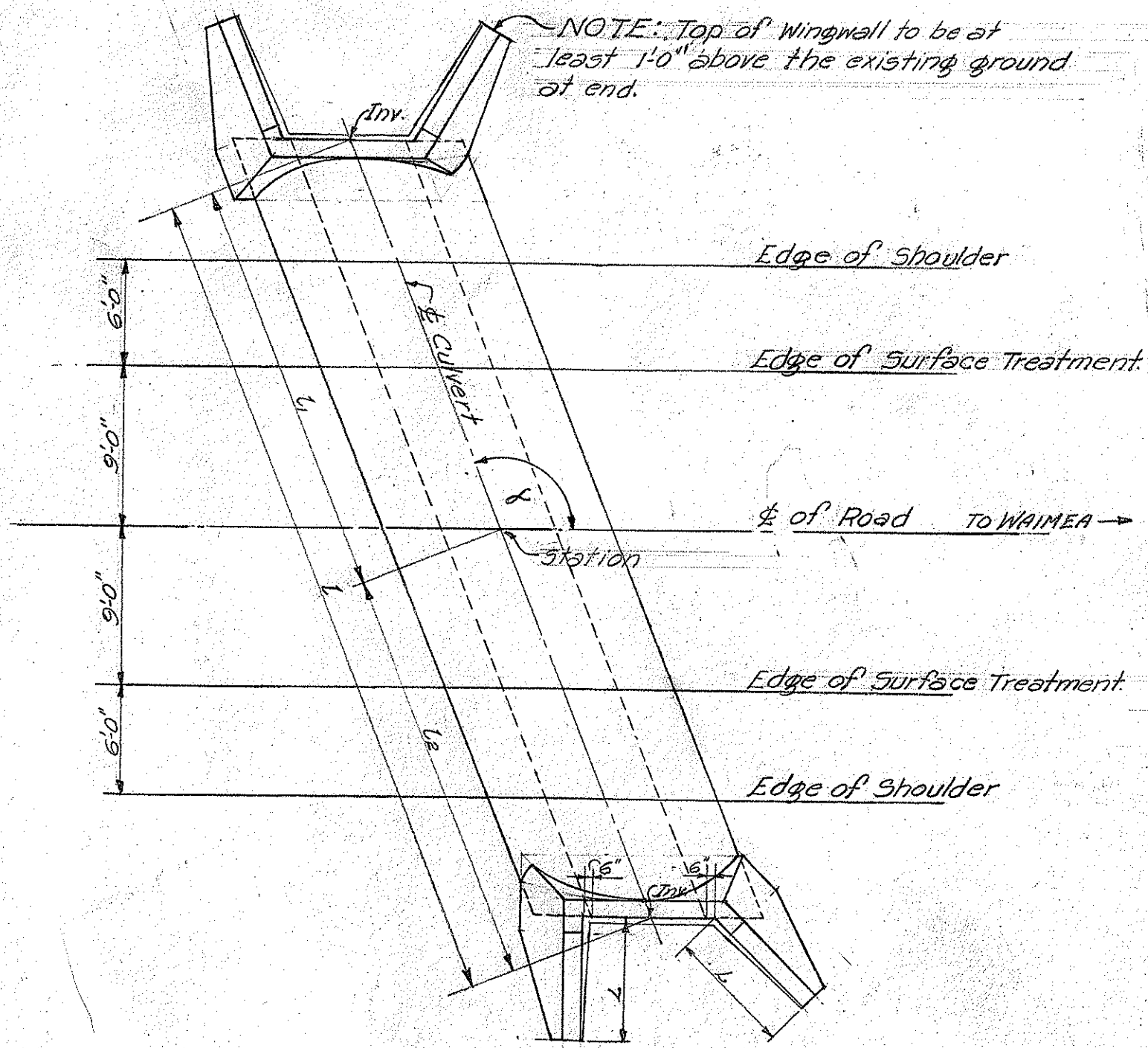
STA. 183+85.68

HAWAII BELT ROAD F.A.P. 10 C1

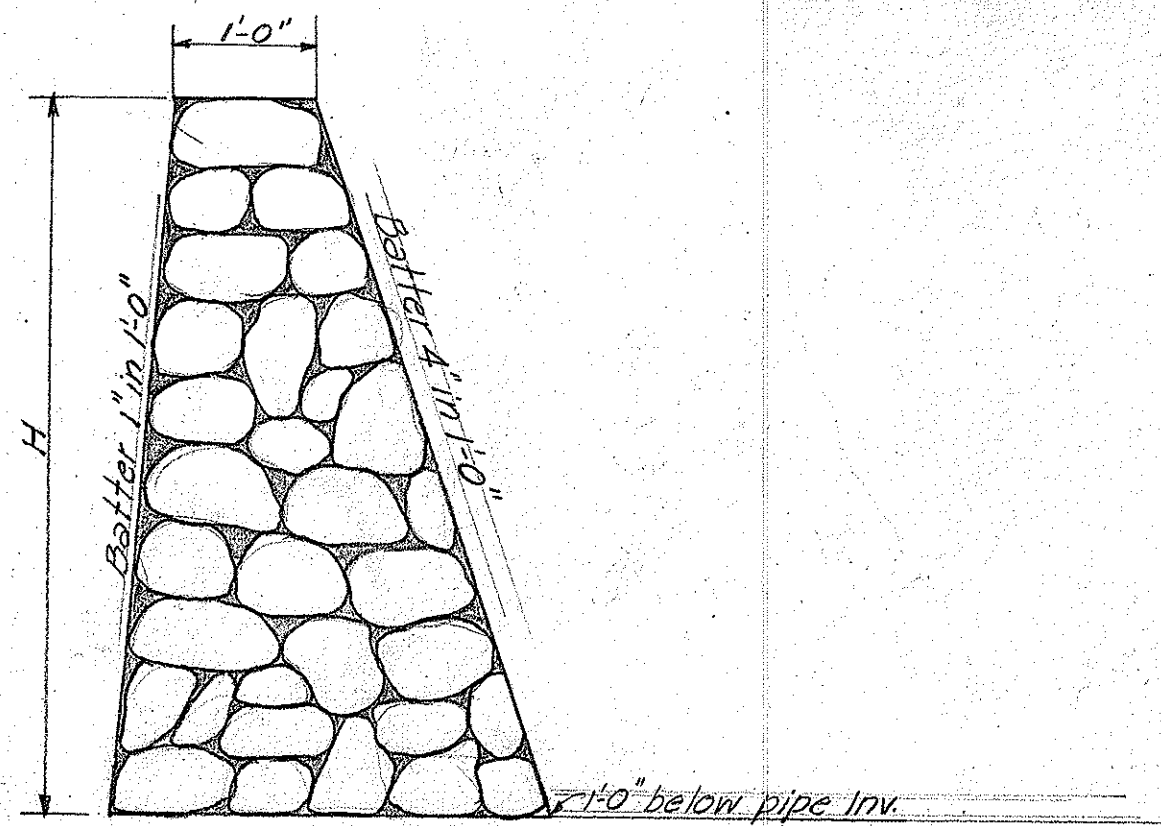
DECEMBER 1938

SHEET No. OF SHEETS

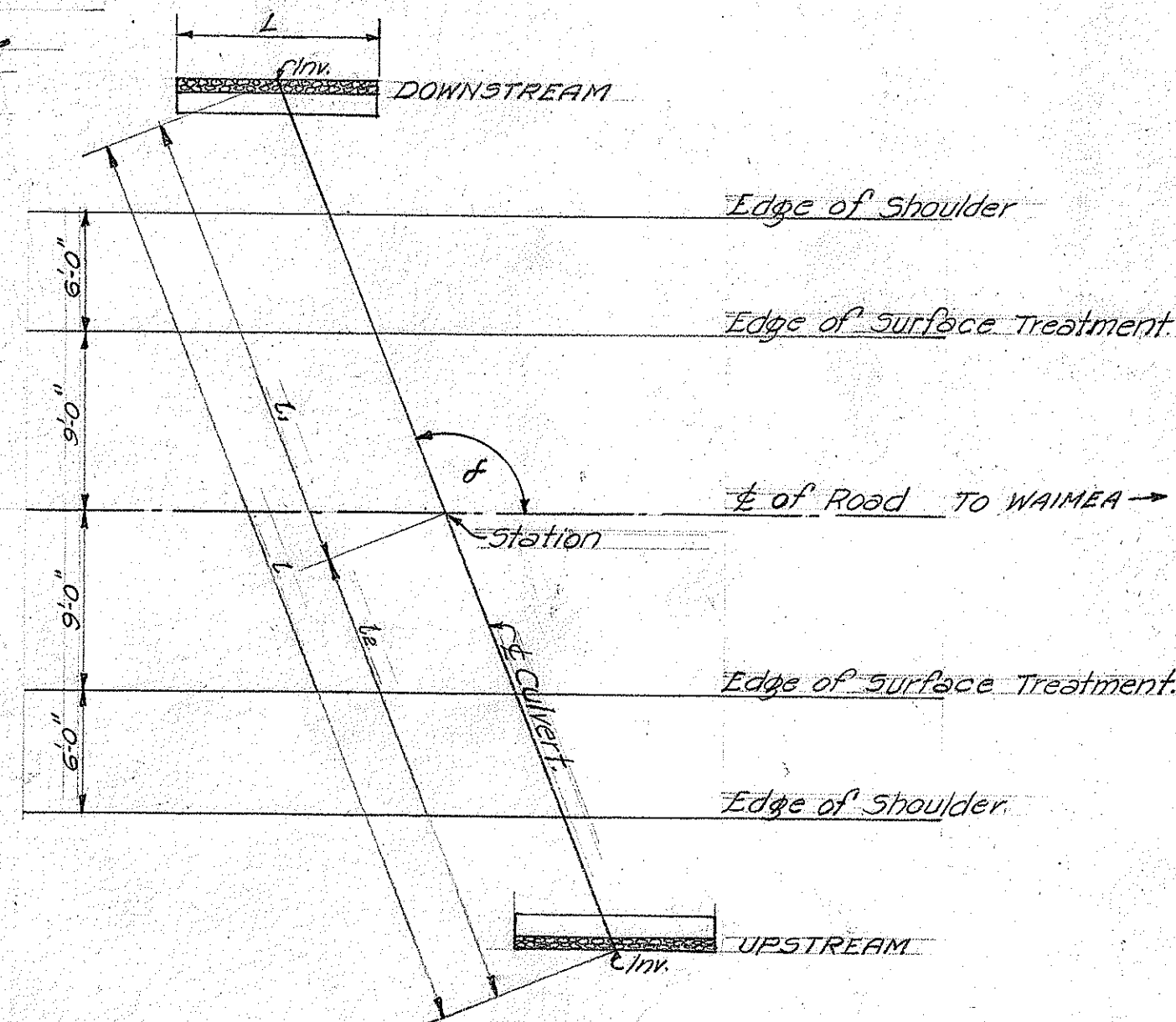
4481.15



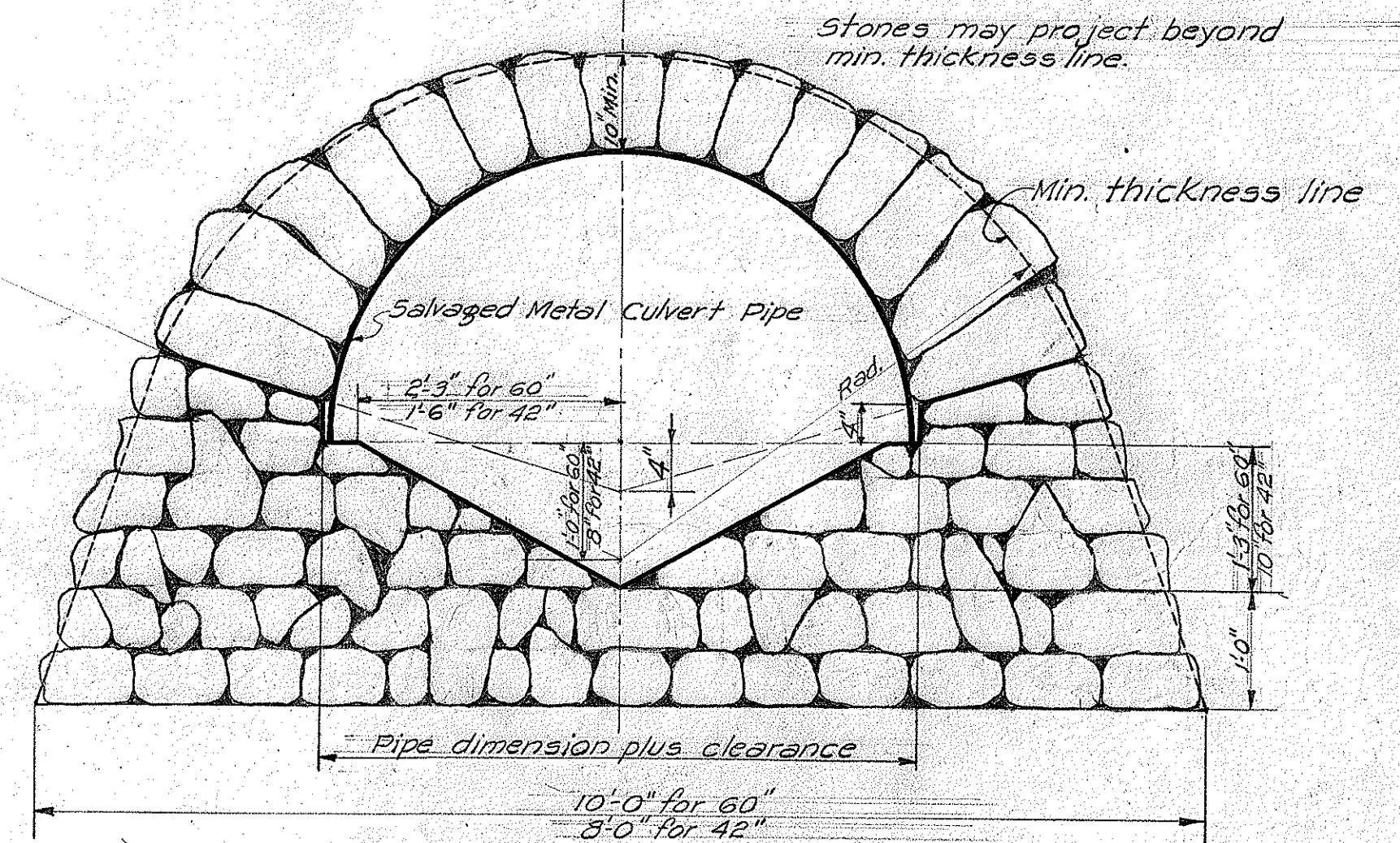
LAYOUT PLAN FOR
60" & 72" C.R.M. CULVERTS
Scale: 1/8"=1'-0"
NOTE: Skew of Wingwalls shall be determined by Resident Engineer.



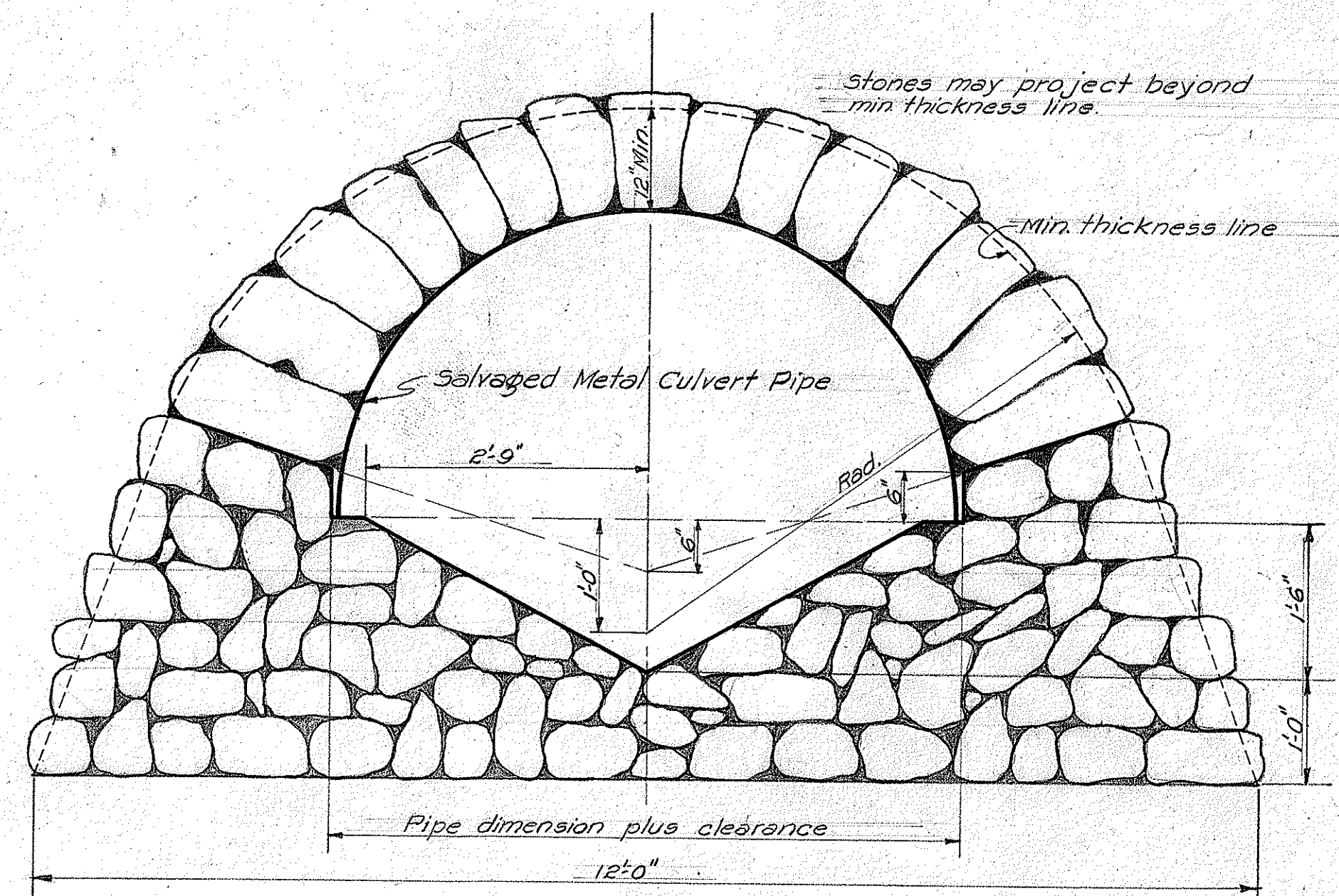
WINGWALL & HEADWALL DETAIL
FOR 42", 60" & 72" C.R.M. CULVERTS
Scale: 3/4"=1'-0"
NOTE: See Standard Detail Sheet for 24" & 36" Corrugated Galv. Metal Pipe Culvert Headwalls.



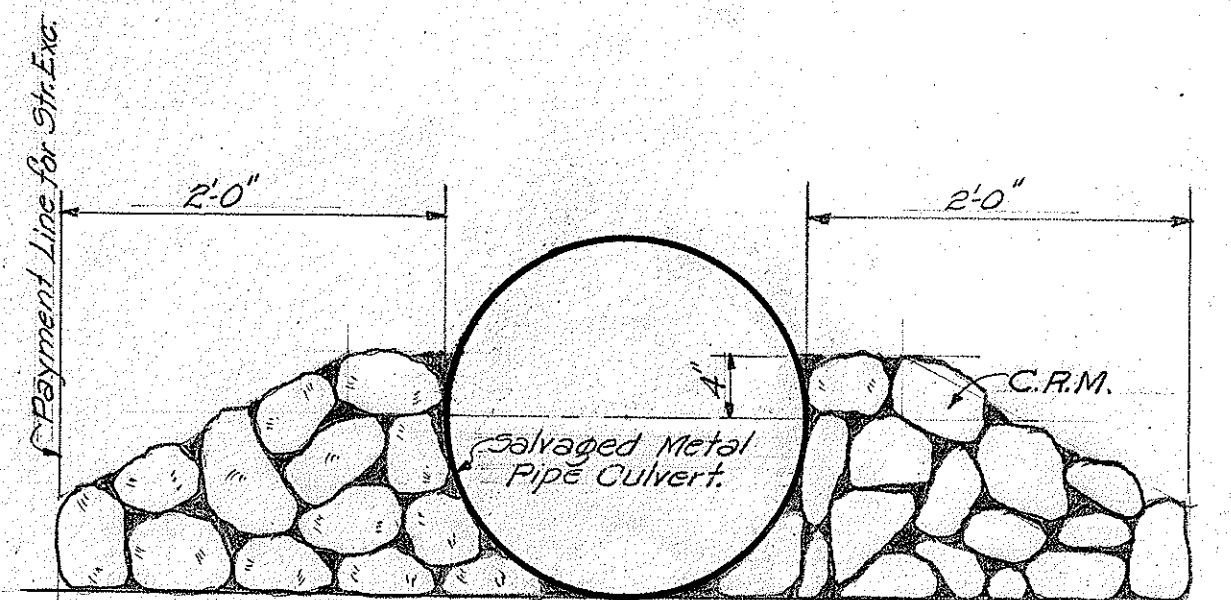
LAYOUT PLAN FOR
24", 36" & 42" CULVERTS
Scale: 1/8"=1'-0"



TYPICAL SECTION ~ 42" & 60" C.R.M. CULVERTS
Scale: 3/4"=1'-0"



TYPICAL SECTION ~ 72" C.R.M. CULVERTS
Scale: 3/4"=1'-0"



TYPICAL SECTION
24" & 36" CORRUGATED GALV. METAL PIPE CULVERTS
Scale: 1"=1'-0"

STA.	SIZE	L	INVERTS			CULVERT DIMENSIONS			WING & HEADWALLS		EST. QUANTITIES				
			LEFT	RIGHT		L ₁	L ₂	L	L approx.	H max.	CHANNEL EXC. CY.	STR. EXC. CY.	C.R.M. CY.	C.R.M. CULVERTS CY.	RELINING CULV. PIPE 11/2 FT.
19+84	24"	46'-30"	510.8	514.0		31'	29'	60'	Standard		2	30	13.3		60
40+20	24"	123'-00"	502.0	502.3		21'	21'	42'	Standard		10	16	10.0		42
72+32	36"	106'-30"	542.8	548.2		36'	34'	60'	Standard		5	12	21.0		70
116+66	24"	112'-30"	522.0	526.0		23'	21'	44'	Standard		5	15	10.0		44
141+20	60"	131'-00"	530.0	541.3		10'	50'	120'	5'-6"	5'-9"	5	190		121.0	120
167+81	36"	83'-30"	571.3	573.0		26'	24'	50'	Standard		5	15.5			50
174+58	36"	96'-20"	598.0	600.0		24'	21'	45'	Standard		5	14.0			45
178+22	42"	74'-00"	600.8	602.3		22'	18'	40'	12'-0"	4'-6"	15	30		31.0	40
									Totals		42	213	83.8	152.0	471

*NOTE: Structure Exc. quantities are for the installation of culverts only. 230 cu. ft. of structure exc. estimated for the removal of the existing Corr. Galv. Metal Pipe Culverts.