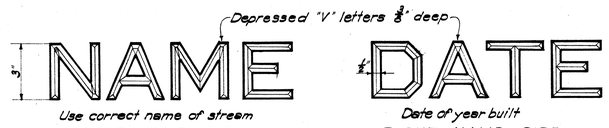
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	F29(4)	1946	21	53



DETAIL OF LETTERS AND FIGURES AT BOTH APPROACHES

NOTE! *Name of stream to be placed in left end post panels and date in right end post panels on entering bridge using modified block letters 3" in height.*

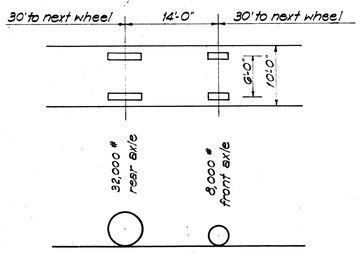
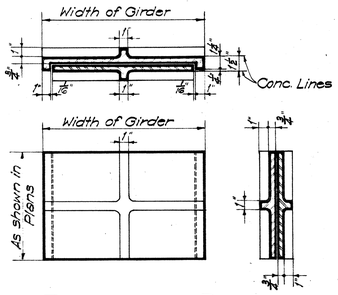


DIAGRAM OF TYPICAL 20-TON TRUCK

(TRUCK & LOADING)



EXPANSION PLATES

Scale: 1½" = 1'-0"

NOTE! *Plates to be of Phosphor Bronze conforming to A.S.T.M. B 22, Class C. Contact areas to have medium planed finish with finishing strokes parallel to longitudinal direction of bridge*

GENERAL NOTES

DEAD LOAD: *Concrete Paving = 150 # per cu. ft.*
LIVE LOAD: *H-20 loading; Impact, $\frac{50}{L+125}$ Max. 30 %*

DESIGN STRESSES: *f_c = 1000 # per sq. in.; f_s = 18000 # per sq. in.*

CONCRETE: *Class of concrete to be used in different parts of the structure are as noted on the plans. All exposed edges chamfered 3/4" unless otherwise noted.*

REINFORCING STEEL: *Intermediate grade. All steel to be round or square deformed bars of approved design. All dimensions relating to reinforcing are to centers of bars unless otherwise noted.*

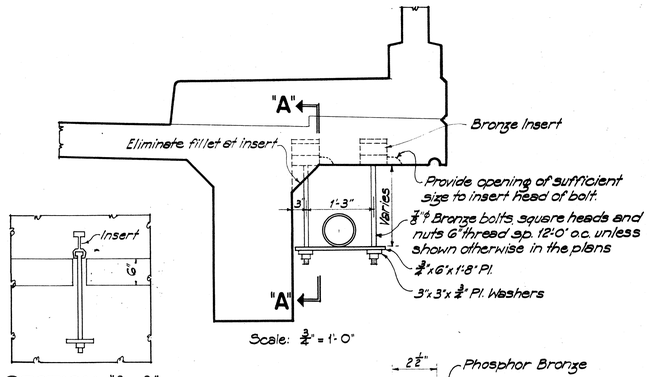
Splicing of reinforcing other than main deck slab, girder and frame bars shall be done by lapping 40 diameters. Splices are to be staggered. Splices in main girder and frame bars are permitted only in bars exceeding 80'-0" in length at points to be indicated by the Engineer. These splices to be electrically arc welded according to detail and specifications. No allowance will be made in the quantities for extra weight of steel required for splices not shown on the plans.

Minimum spacing between parallel bars shall be 2½ times the diameter of round or 3 times the side dimension of square bars, but in no case shall the clear distance between the bars be less than 1½ times the maximum size of the coarse aggregate.

Minimum covering, measured from the surface of the concrete to the face of any reinforcing bar, shall be not less than 2 inches except in slabs where the minimum covering shall be 1 inch. In the footings of abutments and retaining walls and in piers the minimum covering shall be 3 inches. In work exposed to the action of sea water the minimum covering shall be 4 inches except in precast concrete piles, where a minimum of 3 inches may be used.

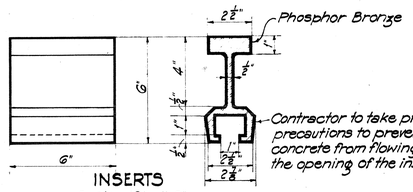
WATERPROOFING: *Apply waterproofing as specified in Section 34 Pamphlet N of the Specification and as shown in the plans. Waterproofing is incidental to the concrete and will not be paid for separately.*

CONSTRUCTION JOINTS: *All construction joints to have surface roughened and 1:2 cement grout applied immediately before the second pour. Construction joints to be located at places indicated in the plans.*



SECTION "A-A"

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

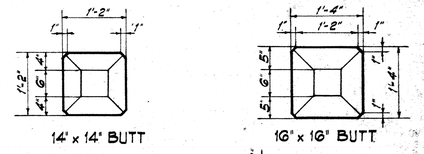


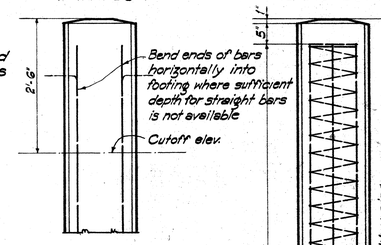
INSERTS

Scale: 3" = 1'-0"

DETAIL OF PIPE HANGERS AND INSERTS

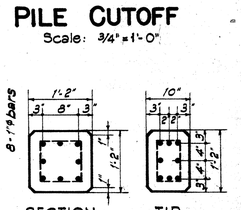
NOTE! *Inserts, bolts, plates, nuts & washers to be Phosphor Bronze conforming to the A.S.T.M. standards, Serial Designation B 22 or the latest revision thereof, and shall be Class "D" grade.*



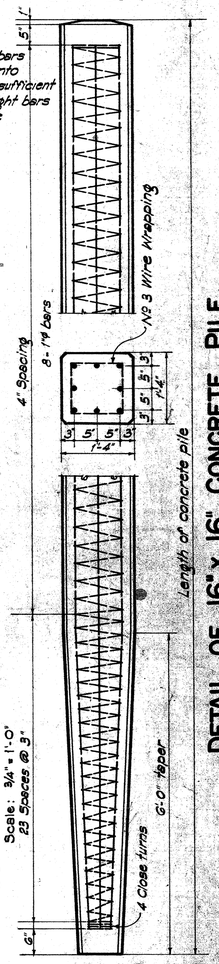


PILE CUTOFF

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



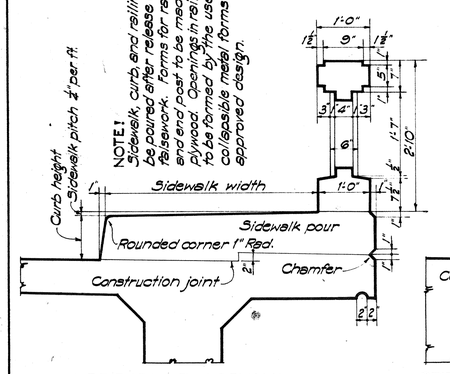
14" x 14" CONCRETE PILE



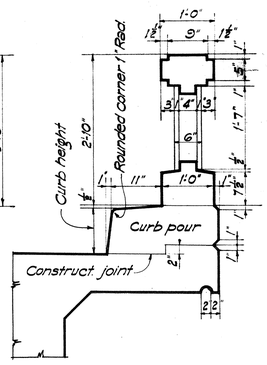
DETAIL OF 16" x 16" CONCRETE PILE

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

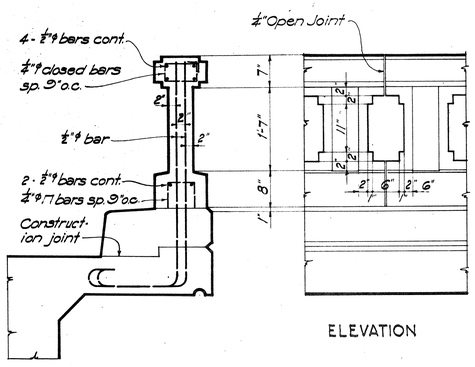
NOTE! *For 14" x 14" Concrete Piles use same reinforcing, # of bars & wrapping.*



BRIDGES WITH SIDEWALK



BRIDGES WITHOUT SIDEWALK

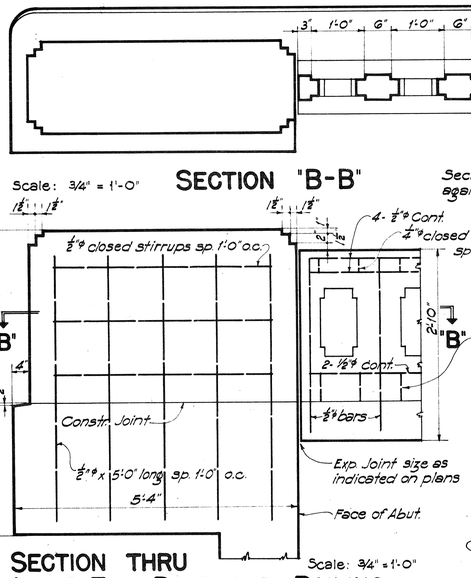


ELEVATION

RAILING REINFORCING

RAILING DETAILS

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

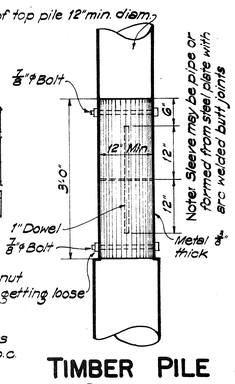


SECTION "B-B"

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

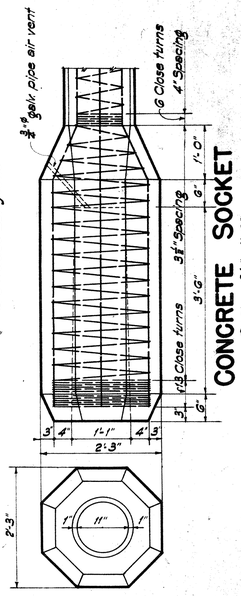
SECTION THRU ℄ OF END POST AND RAILING

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



TIMBER PILE SPLICE

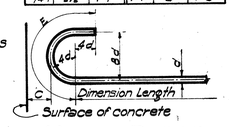
Scale: 3/4" = 1'-0"



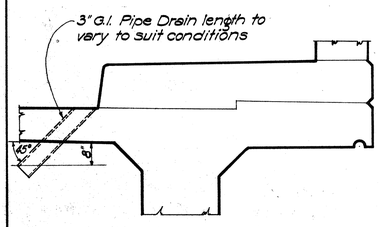
CONCRETE SOCKET

Scale: 3/4" = 1'-0"
23 Spaces @ 3"

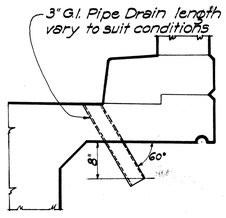
Size	C	E	Size	C	E
3/8" φ	2"	6"	7/8" φ	2½"	1'-3"
1/2" φ	2"	8"	1" φ	3"	1'-5"
5/8" φ	2½"	11"	1⅛" φ	3"	1'-7"
3/4" φ	2½"	1'-1"	1¼" φ	3"	1'-9"



HOOK DETAIL



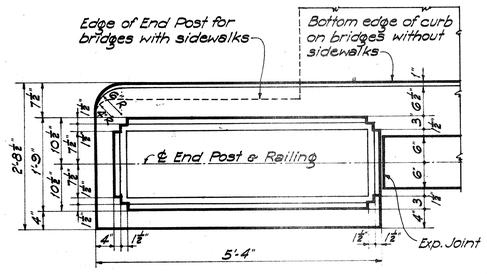
SIDEWALK SIDE



NORMAL SIDE

DRAINAGE DETAIL

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



END POST DETAIL

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

TERRITORIAL HIGHWAY DEPARTMENT
TERRITORY OF HAWAII

STANDARD BRIDGE DETAILS

Scales as Noted

APPROVED BY: _____
TERRITORIAL HIGHWAY ENGINEER

SHEET NO. ____ OF ____ SHEETS

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
	DESIGNED BY	
	DRAWN BY	R.Y. Oishi
	TRACED BY	R.Y. Oishi
	QUANTITIES BY	
	QUANTITIES CHECKED BY	
NOTE BOOK		
No.		

July 1945

5185.21