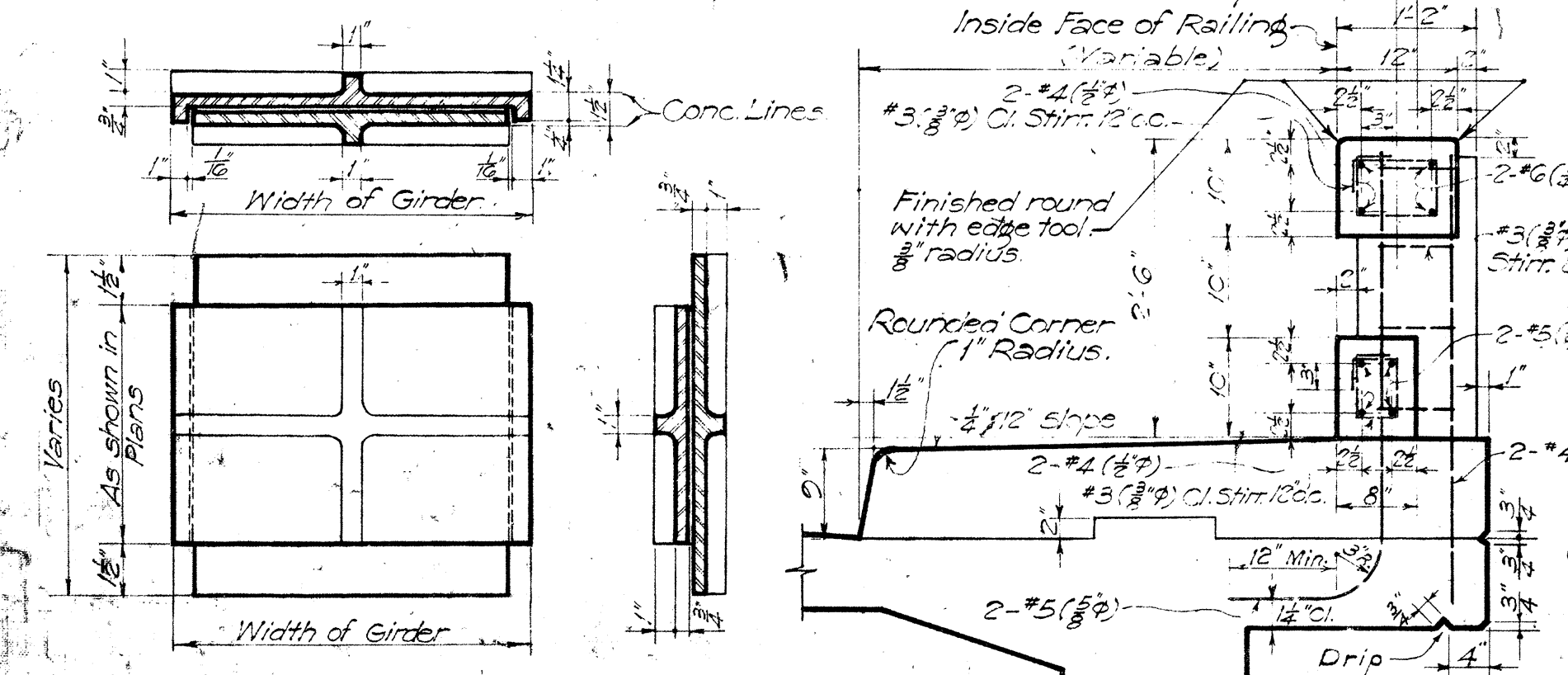


NAME DATE

Use correct name of bridge
LEFT HAND SIDE
Date of year built.
RIGHT HAND SIDE

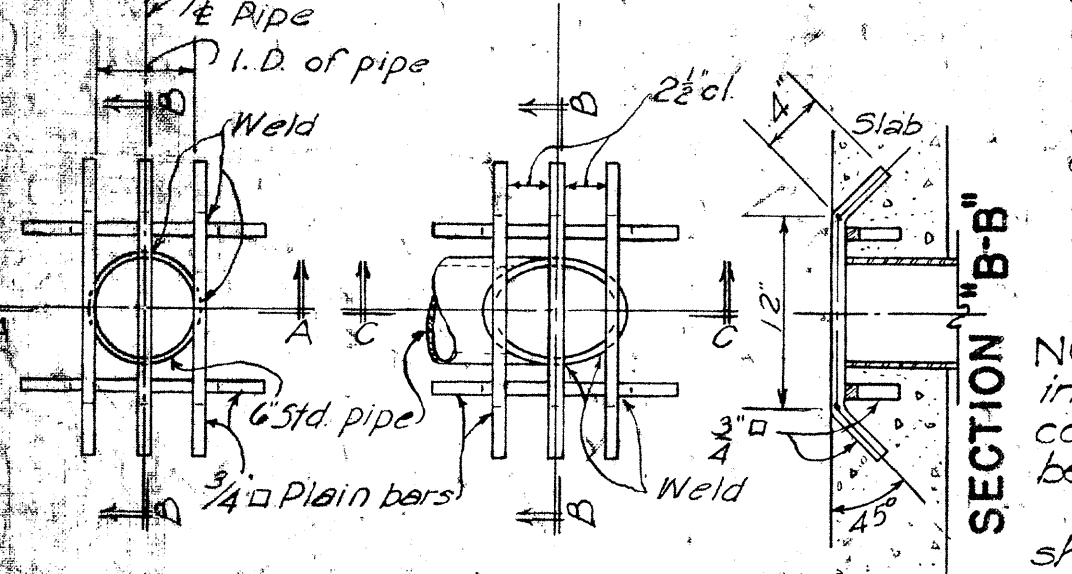
DETAIL OF LETTERS AND FIGURES
AT BOTH APPROACHES

NOTE: Name of bridge to be placed in left end post panels and date in right post panels on entering bridge using modified block letters 3" in height. In case of stream crossings use name of stream for name of bridge. For all others use name as designated by the Engineer.



EXPANSION PLATES

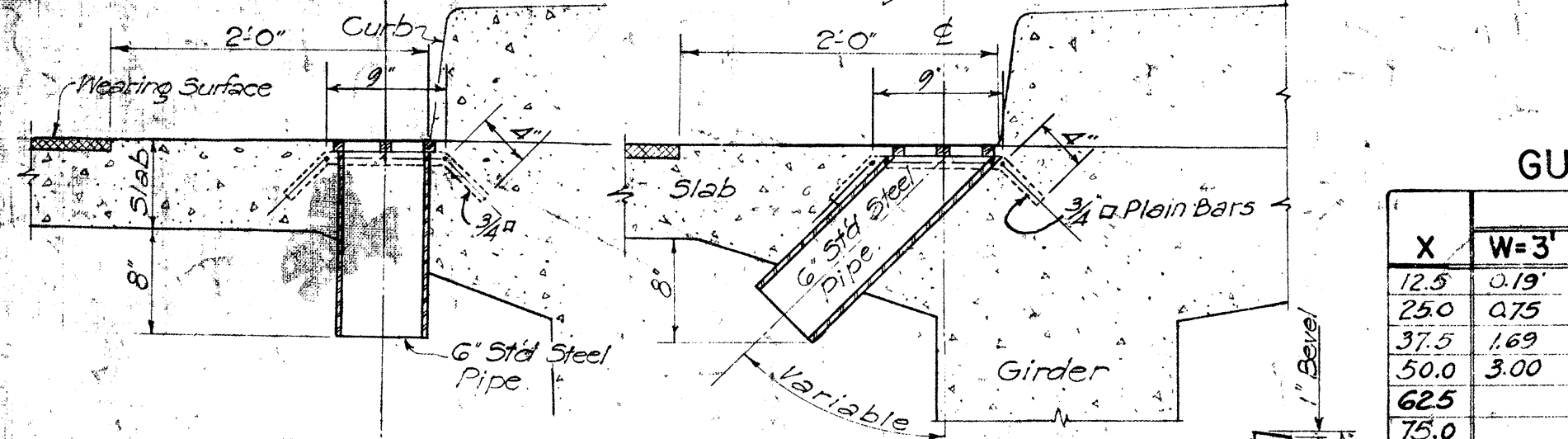
NOTE: Plates to be made of Bronze conforming to A.S.T.M. B22, Class C. Contact areas to have medium planed finish with finishing strokes parallel to longitudinal direction of bridge.



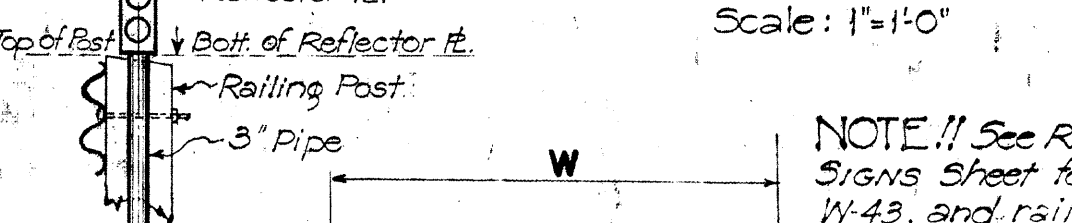
SECTION "B-B"
RAILING DETAIL

NOTE: Sidewalk, curb and railing to be poured after release of falsework. Forms for railing and endpost to be made of plywood. SURFACE FINISH: The surface of the concrete railings shall be given a Class 2 Rubbed Finish as specified under Sub-article 51.3 (C) (2) of the Standard Specifications.

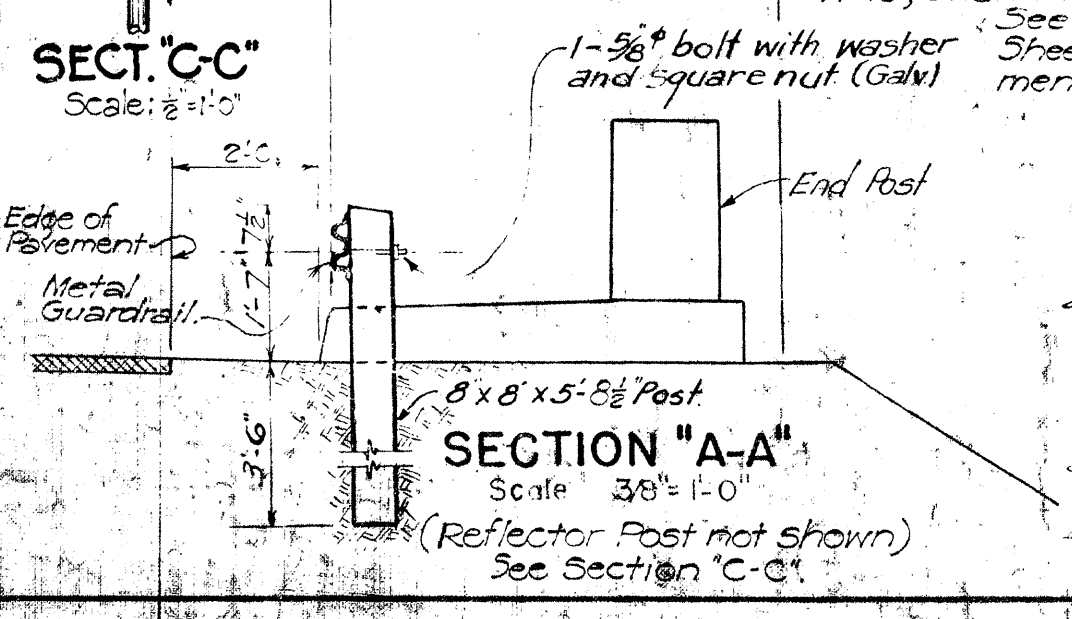
NOTE: Metal drains shall be considered incidental to Class A-1 Concrete in both concrete and steel bridges and will not be paid for separately. Assembly of grillage and pipe shall be hot-dip galvanized after all welding is completed.



SECTION "A-A"
DRAINAGE DETAIL



SECTION "C-C"



GENERAL NOTES

CONCRETE: Class of concrete to be used in different parts of the structure are as noted on the plans.

REINFORCING STEEL: All reinforcing steel shall be Billet Steel Bars ASTM A15 Intermediate grade.

Steel shall be made by the open-hearth process. Deformations shall conform to ASTM-A305.

Splicing of reinforcing other than in main deck slab, girder and frame bars shall be done as shown in above sketch except where shown otherwise.

Splices are to be staggered. Splices in main girder and frame bars are permitted only in bars exceeding 60'-0" in length at points to be indicated by the Engineer. These splices to be electrically 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 2 1/2 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 1 1/2 times the maximum size of the coarse aggregate.

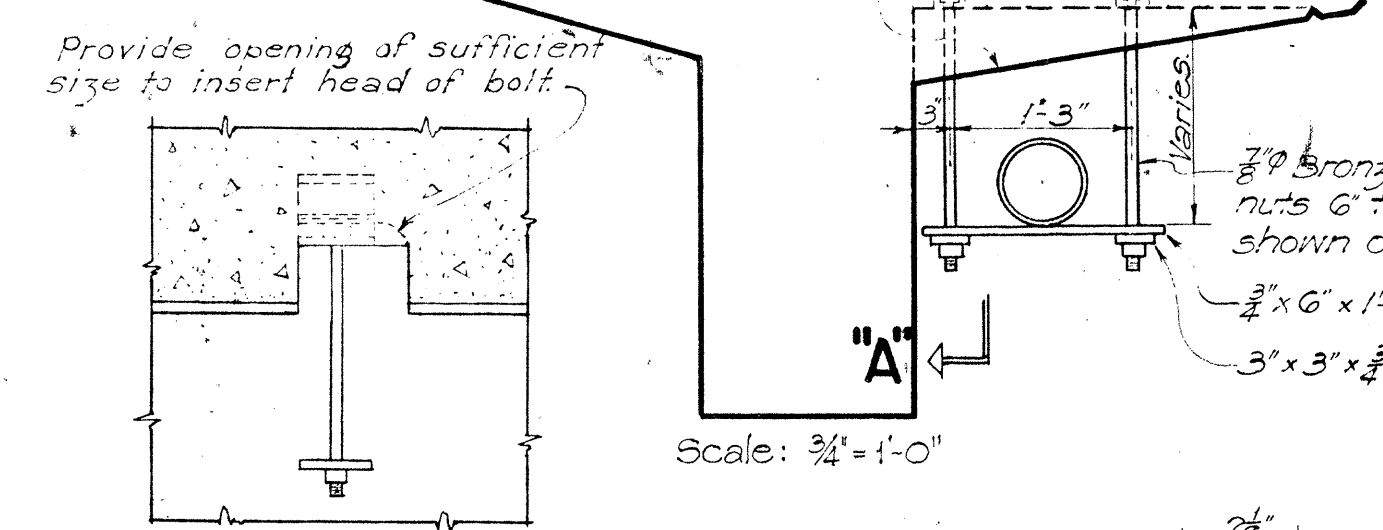
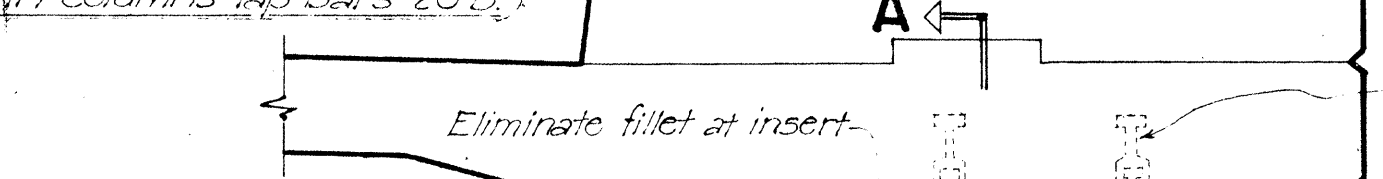
Minimum covering, measured from the surface of the concrete to the face of any reinforcing bar, shall be not less than 2 inches except in slabs where the minimum covering shall be 1 inch. In the footings of abutments and retaining walls and in piers the minimum covering shall be 3 inches.

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" may be used.

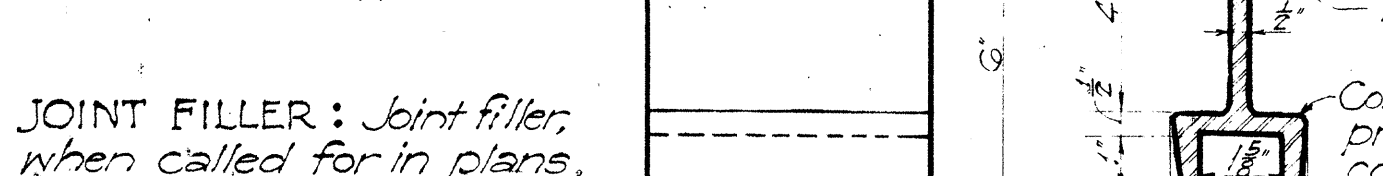
All dimensions relating to reinforcing are to centers of bars unless otherwise noted.

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.

LAP DETAIL



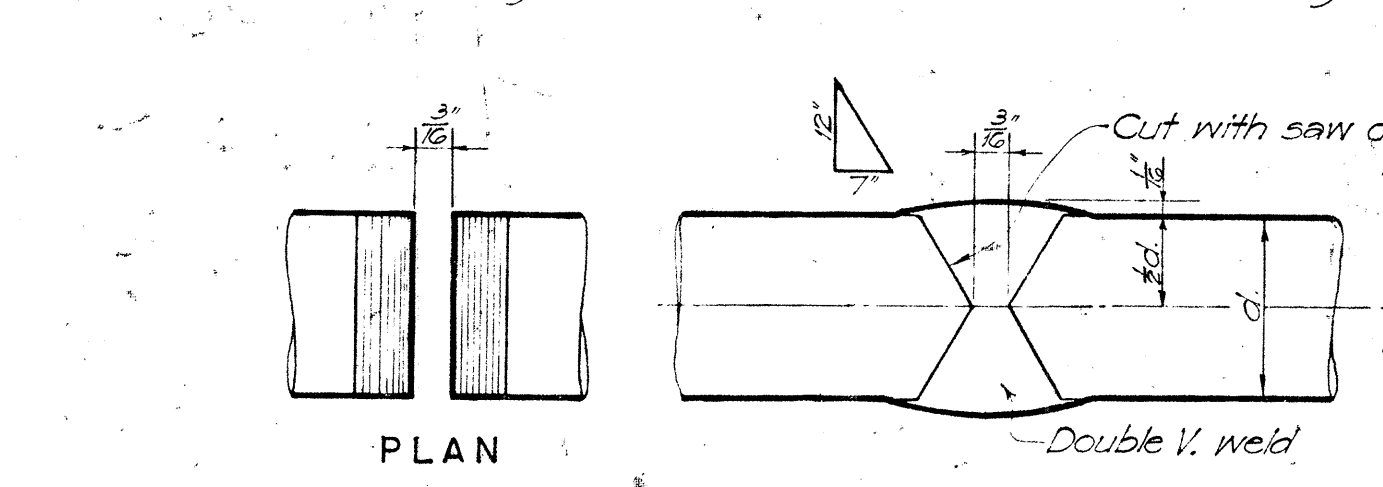
SECTION "A-A"



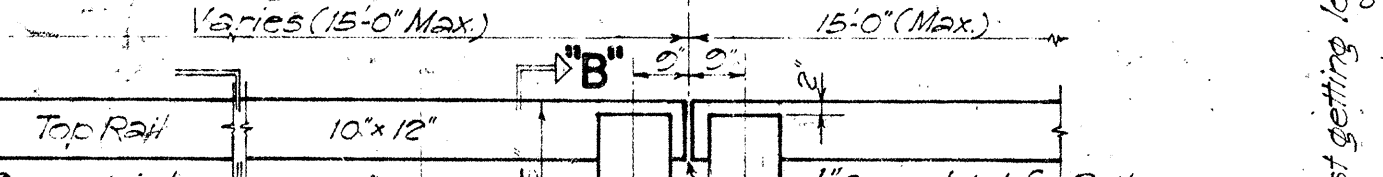
JOINT FILLER: Joint filler, when called for in plans, shall be incidental to concrete and will not be paid for separately.

DETAIL OF PIPE HANGERS AND INSERTS

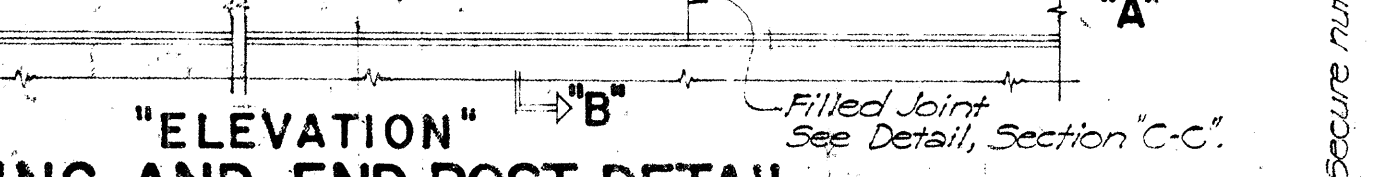
NOTE: Inserts, bolts, plates, nuts & washers to be Bronze conforming to A.S.T.M. Designation B22 and shall be Class 'D' grade.



REINFORCING BAR SPLICE



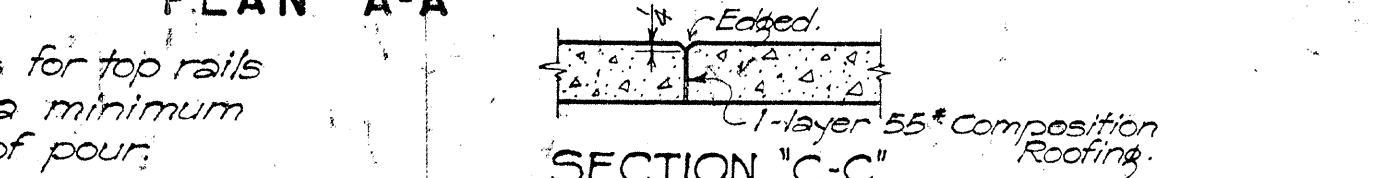
"ELEVATION" RAILING AND END POST DETAIL



PLAN "A-A"



SECTION "C-C"



TOP RAIL ~ Bottom forms for top rails shall be kept in place a minimum of 14 days from date of pour.

Widen for pedestrian walkway when required.

Multi-lane with median strip on bridge.

Multi-lane with separate structure.

4" Tile Drains, when called for in plans, shall be incidental to concrete.

Waterproofing See Special Provisions.

Bronze Insert (Incidental to Class A-1 Conc.)

Eliminate fillet at insert.

Provide opening of sufficient size to insert head of bolt.

7/8" Bronze bolts square heads and nuts 6" thread sp. 12'-0" oc. unless shown otherwise in the plans.

3" x 3" x 3/8" PL Washers.

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

BRONZE

Contractor to take proper precautions to prevent the concrete from flowing into the opening of the insert.

INSERTS

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

DETAIL OF PIPE HANGERS AND INSERTS

NOTE: Inserts, bolts, plates, nuts & washers to be Bronze conforming to A.S.T.M. Designation B22 and shall be Class 'D' grade.

Cut with saw or grind smooth if cut by torch.

Double V. weld.

Bottom end of pile extension must be of sufficient size to fill the splice sleeve completely. No filling-in will be permitted.

Secure nut against getting loose.

1" Donut

NOTE: Sleeve may be pipe or formed from steel plate with arc welded butt joint.

1/2" Bolt

1/2" Donut

1/2" Bolt

1/2" Donut

1/2" Bolt

1/2" Donut

1/2" Bolt

1/2" Donut

1/2" Bolt

1/2" Donut

1/2" Bolt

CONSTRUCTION JOINT, WATERPROOFING AND WEEPHOLES.

See "GENERAL NOTES"

Filler material when called for in the plan.

Construction Joint.

See "GENERAL NOTES"

Filler material when called for in the plan.

Construction Joint.

See "GENERAL NOTES"

Filler material when called for in the plan.

Construction Joint.

See "GENERAL NOTES"

Filler material when called for in the plan.

Construction Joint.

See "GENERAL NOTES"

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See "GENERAL NOTES"

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See "GENERAL NOTES"

Filler material when called for in the plan.

Construction Joint.

See "GENERAL NOTES"

Filler material when called for in the plan.

Construction Joint.

See "GENERAL NOTES"

Filler material when called for in the plan.

Construction Joint.

CONCRETE PILE

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TERRITORIAL HIGHWAY DEPARTMENT

TERRITORY OF HAWAII

STANDARD BRIDGE DETAILS

Scales as Noted

APPROVED BY:

TERRITORIAL HIGHWAY ENGINEER

SHEET NO. 111 OF 111 SHEETS

5567.111