As will be noted (see Fig. 4) the footings are of the standard spread type and are reinforced as mentioned above.

The wing walls of both abutments are of the counterfort type. Fig. 2 is a section through the east wing of the north abutment. This sketch is typical of all the wing walls.

For the section shown the counterforts are spaced 10 feet apart and taper from 10 feet deep at the bottom to zero at the top. They are 24 inches in thickness and are reinforced along the outer edge by 1¹/₄-inch diameter rods varying in number from ten at the bottom to two at the top. These rods are bent at their bottom ends and carried into the longitudinal slab for anchorage. In the body of the counterfort 5%-inch rods in pairs are spaced as shown.

The bottom slab, forming the heel of this part of the wing wall, has an effective depth of 22 inches and is reinforced longitudinally with 7%-inch diameter bars spaced 4 inches centres. The vertical slab varies in effective thickness from 32 inches at the bottom to 16 inches at the top, and is provided at the top with a frost batter running down to a depth of 4 feet. The reinforcing of the vertical slabs consists of 5%-inch rods spaced 1 foot horizontally and 2 feet 6 inches vertically.

The 4-inch sidewalk slabs reinforced with 3:9:25 steelcrete are supported upon brackets spaced 6 feet apart and cantilevered out from the main deck slab to which they are securely anchored. These brackets are 9 inches thick with an effective depth varying from 9 inches at the

outer end to 22 inches at the point of juncture with the superstructure proper. The tension reinforcement consists of three $\frac{3}{4}$ -inch diameter rods and the compression of two $\frac{1}{2}$ -inch diameter rods. The balustrade is carried between brackets On a reinforced beam which forms its base.

The balustrade shown in the general sketch (Fig. 4) was that originally designed, but the design was later changed and the hand-railing constructed, as shown in Fig. 1.

The timber trestle (forming the temporary north approach) consists of framed bents spaced 13 feet centres supported on concrete pedestals.

The pedestals rest on a continuous footing 18 inches thick and 36 inches wide which serves in distributing the load uniformly over the foundation.

Fig. 3 shows a typical trestle bent. It is composed of eleven 10-inch x 12-inch posts with 10-inch x 12-inch sill and

12-inch x 12-inch cap, braced transversely with 2-inch x 10-inch and longitudinally in pairs joining towers with 3-inch x 10-inch timbers. The sill is anchored to the concrete pedestals by 1inch diameter dowels 2 feet 6 inches long. All posts are dowelled to cap and sill by 1-inch diameter dowels 8-inches long and all bracing connections are made with 5%-inch diameter bolts with cast-iron washers.

The car tracks are carried on 12-inch x 16-inch timbers, one under each rail and the roadway stringers consist of 4-inch x 14-inch timbers spaced 1-foot 3^{1/2}-inch centres. The roadway decking consists of a 2-inch wearing sur-

face superimposed upon a 3-inch underdeck.

The sidewalk is carried on 2-inch x 12-inch stringers spaced 1-foot 11-inch centres and is composed of 2-inch planking.







Fig. No. 4.-Half Plan, General Elevation and Longitudinal Section