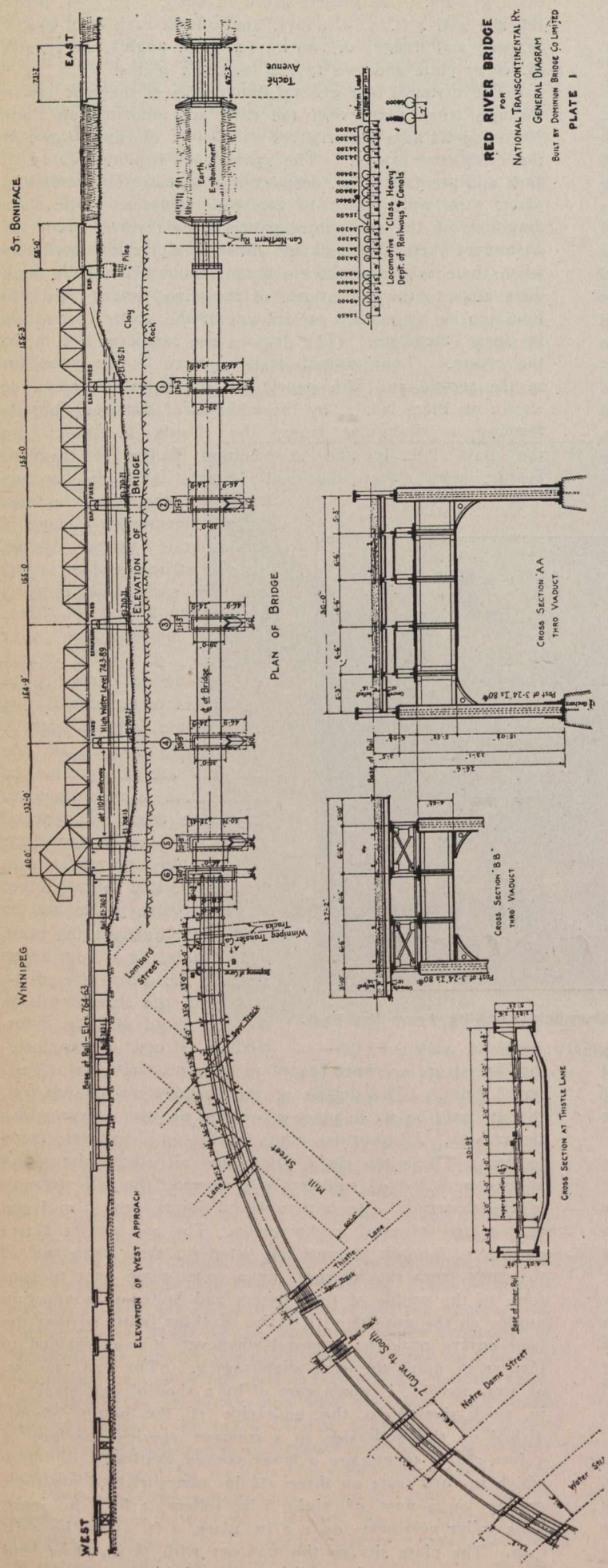

river piers there is an additional ¾ in. plate running continuously under the bed plate of the two adjacent spans. The spans are anchored at each corner by two 1¾ in. anchor bolts, 6 ft. 6 in. long, connecting to brackets on either side of the bottom chord, and running 2 feet into the masonry, set after the trusses are in place. It was desirable to have a fixed end next the toe of the bascule on pier No. 4, so the west ends of all four spans were made fixed and their east ends roller.

Leaving the bascule span in the meantime, let us note a few things in connection with the long viaduct of the western approach. Cross sections AA and BB on Plate No. 1 show typically the construction of the different portions. Except where the viaduct crosses over the tracks of the Winnipeg Transfer Co. and the other spur track, the cross section is as shown at BB, and similar to the span over Taché Avenue—four deck girders with 9-inch cross beams on top cantilevering out supporting facia girders. On the curve the super-elevation of the outer rail is attained in the ballast of the floor. The longest and heaviest of the deck girders are the four spanning from pier 6 to the first bent. These are 54 ft. long centre to centre of bearings, and have each a 72 x 7/16 in. web and flanges of two 8 x 8 x ¾ in. angles, and two 18 x ½ in. cover plates. The smallest deck girder is one of 13 ft. 8 in. span at the 20 ft. 6 in. chord over the east side of Mill Street, and it has a 47 x ⅜ in. web and flanges of 2 ft. 6 in. x 4 x ⅜ in. angles. The 33-ft. girders have 46 x ½ in. webs and flanges, of two 8 x 8 x ¾ in. angles and one 18 x ⅜ in. cover plate, while the 36-ft. girders over Mill Street have 45 x 9/16 in. webs and flanges of two 8 x 8 x ¾ in. angles and one 18 x ⅝ in. cover plate. These deck girders have lateral bracing on the bottom flange only. In the 36 ft. 1¼ in. span over the Transfer tracks, deck girders would not have given sufficient under clearance, so through side girders were used, as shown on section AA, with one intermediate floor beam, which was skewed to suit the tracks and carries built stringers 27 in. deep, two under each track. The floor beam and the stringers were made flush on top with the 9-inch beams, so that these latter had to rest on shelf angles on the webs of the stringers and side girders; otherwise the construction is similar to the rest of the viaduct. A side view of this span is shown in Photo No. 1. The side girders are 70 in. deep. Crossing over the other spur track the span is only 23 ft. 7 3/16 in., so that there was no necessity for an intermediate floor beam or side girders, the stringers being plate girders 26 in. deep. Here, however, the supporting posts are only 19 ft. 6 in. apart transversely, and as the 9-inch beams do not cantilever it was necessary to put side brackets on the post, in order to carry the facia girders, which are 27 ft. 2 in. apart, and which are heavier than usual at this span, as they are designed to take the load of a derailed train, which load is ordinarily carried on the cross beams, cantilevering. The deck of the viaduct is carried throughout on posts and cross floor beams. The posts are 30 ft. apart crosswise for the through span and 19 ft. 6 in. elsewhere. The height from base of rail to top of concrete pedestals varies from 26 ft. 6 in. to 23 ft. 6 in. Most of the posts are made of three 24-in. I's at 80 lbs., but some are heavier, the heaviest being two at the sides of the Mill Street, composed of one 23½ x ⅝ in. web, four 5 x 3½ x ½ in. angles, and two 24-in. I's at 100 lbs. The heaviest cross girder is at the first bent west of pier 6, and has an 80 x ¾ in. web and flanges of two 8 x 8 x ¾ in. angles, two 18 x ½ in. plates, and