ITEM 10599.02 M - STEEL COUNTERWEIGHTS

DESCRIPTION. The work consists of furnishing and installing movable adjusting blocks of steel in weights of 23 kg to 34 kg, as required to properly balance the bascule leaves after all work is complete on the bascule spans at Long Beach Bridge.

MATERIALS. Steel castings shall meet the requirements of ASTM A 108 or "Merchant Quality" material as approved by the Engineer.

CONSTRUCTION DETAILS. The Contractor shall determine the weight and center of gravity of the counterweights required to balance the bascule span leaves. These determinations shall be based on results obtained by installation of a strain gage monitoring system installed on each of the main shafts of the bascule leaves. The balancing measurements shall be directly supervised by a Professional Engineer (engaged by the Contractor) licensed and registered in the State of New York. The Professional Engineer shall have had hands-on experience in performing this procedure. This procedure and monitoring system shall be submitted to the Engineer for approval. The procedure shall include descriptions (catalog cuts, specifications) of all equipment to be used, the method of calibration, and the procedure for zeroing all readings. For each balancing procedure performed, the following data shall be submitted to the Engineer for approval: (1) description of equipment and procedure; (2) span drive diagram showing location where strain gauges were attached; (3) copies of output data for both leaf opening and leaf closing; and (4) final calculations/reduced data for leaf balancing procedure. The strain gages and lead cables of each bascule leaf shall remain in place after completion of the work and will become property of Nassau County Department of Public Works.

Steel blocks shall be weighed and marked in the fabricating shop. Prior to the start of construction; after any work on a particular bascule span is performed (removal/addition of existing steel, deck, or permanent or temporary traffic barriers, and after replacement of any span machinery or span electrical control systems); and after both leaves (including machinery and controls) have been rehabilitated and restored and the existing structural steel has been completely repainted, the Contractor shall adjust the counterweights so as to balance the bridge bascule leaves to the satisfaction of the Engineer.

METHOD OF MEASUREMENT. Payment will be made at the lump sum price bid.

Progress payments will be made in accordance with the following: The Contractor shall submit a schedule of work outlining each work phase, with a percentage figure assigned to each phase. The percentages assigned to each phase are subject to the approval of the Engineer. The Engineer will use this schedule to set progress payments. The Engineer may request a revised work schedule at any time. Failure by the Contractor to supply a revised work schedule upon request will cause the progress payments to be immediately terminated.

BASIS OF PAYMENT. The lump sum price bid for steel counterweights shall include the cost of furnishing, fabrication, installation of strain gage monitoring systems and performance of balancing procedures, and furnishing and installation of steel blocks, complete in place, including all labor, materials, and equipment necessary to complete the work.