

clean, large grained, sharp sand, generally in the proportion of two of sand to one of cement, or such other proportions as may be directed.

The cement must be of approved quality, fresh from the manufactory, and until used must be protected from the influences of the weather in suitable buildings provided by the contractor. Mortar to be made only in such quantities as required for immediate use, and it must be prepared under the direction and to the satisfaction of the officer in charge.

Grout shall be made either by adding a sufficient quantity of water to well tempered; rich mortar or by using about one and a half ( $1\frac{1}{2}$ ) of clean, sharp sand to one of cement, and adding as much water as may be required to make the whole run freely when properly mixed.

The sand intended to be used for mortar or otherwise, if it is considered necessary by the officer in charge, must be washed.

When the works are in progress the walls must be kept free from all improper materials, and both the face stone and backing must be well washed if clay or other soil adheres to them, and in warm weather the beds and joints of the stones must be moistened with water before they are laid.

In case the walls or any portion of them is allowed to remain in an unfinished state over winter, the contractor must cover them in such a manner as will thoroughly protect them from the action of frost.

*Order of Building.*—The arches must be carried up in such a manner that up to the time of closing them the weight on both sides of the centres, for the entire width of the Aqueduct, must be as nearly as possible equally distributed. The centres are not to be struck or lowered until those parts of the retaining walls within the lines of the first section of the coffer dams or first division, and afterwards that part within the range of the second division, have been at the proper time in both cases raised to the height of at least medium high water, or such other height as may be directed.

The outer and inner faces of these walls must, during the progress of the works, be kept at an uniform height, and building operations to be conducted in such a manner as not to have more than two unfinished courses at one time, within the range of the different sections, and so that one wall shall not be raised more than one course higher than the other.

The stones must in all cases be prepared for the respective places they are to occupy in the work before they are brought on to the walls or any part of the works. They must invariably be laid in full beds of mortar and be driven to their proper bearing by means of a heavy rammer, or maul; all the vertical joints of one course must be satisfactorily grouted up before another course is commenced.

Suitable derricks or other approved machinery for handling and laying the stones must be provided by the contractor, and every precaution adopted to guard against disturbing any of them after they have been laid.

The embankment on the south side of the structure, as well as that on the north-west side of it, may have to be protected with crib-work or rip-rap as circumstances may require.

In the event of cribwork being used, it may be built of cedar, ash, tamarac, hemlock or elm timber, if straight and of good quality, free from sap-wood, unsound knots or other defects. The sides and ends, 11 x 11 inches, must be double dovetailed into each other at the angles, and the cross ties will be 10 x 11 inches, dovetailed into the sides; bottoms, 9 x 10 inches, will be placed six inches apart; the whole secured by vertical binders, and the work throughout done and sunk with stone ballast, the usual way for works of that class, and, if used, will be paid for at the respective rates in the tender.

The range of fender piles is to be continued across the river five feet apart at such a distance above the coffer-dams for the new Aqueduct as will be most likely to protect the works from drift-wood and ice during spring freshets.

The "two ply" boom, partly made, must be completed and placed above the piles for that purpose, and the contractor must remove all flood wood at that place from the river, as well as break up the ice and keep the channel clear during the