SECTION 610

MASONRY CONSTRUCTION

SECTION 610.10 RUBBLE MASONRY

610.11 Description. This work shall consist of stone laid in mortar or laid dry as specified in the contract, and in conformity with the lines and grades shown on the plans or as established by the engineer.

610.12 Material. Stone for rubble masonry shall be sound and durable, and relatively free of shale or other easily disintegrated material. In general, the stone shall not be less than 4 inches (100 mm) thick, however an occasional stone not less than 2 inches (50 mm) thick will be permitted. The stones shall not be less than 12 inches (300 mm) wide, and shall be from 12 to 36 inches (300 to 900 mm) long. The width shall not be less than the thickness, nor shall the length exceed three times the thickness. The stones shall be roughly squared on joints, beds and faces. Selected stone shall be used for the ends and angles of walls. Mortar for joints shall meet the requirements of Sec 1066.1.3. Precast concrete blocks may be substituted for stone for masonry. Such blocks shall be of the size specified above, and shall be made of either Class B concrete or concrete of a commercial mixture meeting the requirements of Sec 501.14. Concrete shall be proportioned, mixed and transported in accordance with Sec 501, and shall be cured by any of the methods specified for concrete pavement, except that transparent membrane shall be used in lieu of pigmented membrane. For dry rubble masonry, the contractor may use broken concrete in lieu of stone, if approved by the engineer. The pieces of broken concrete shall be of the size specified above.

610.13 Construction Requirements.

610.13.1 Rubble Masonry Laid in Mortar. All stone or blocks shall be thoroughly wetted and laid upon their natural beds with joints approximately horizontal and vertical. Each stone or block shall be settled into place in a full bed of mortar. In general, the wall shall be laid with face joints not exceeding 1 1/2 inches (40 mm) in thickness and with vertical joints broken not less than 6 inches (150 mm). The vertical joints in the interior of the wall shall be filled with suitable stone or spalls thoroughly bedded in mortar. Voids will not be permitted. Headers shall be arranged to occupy at least 1/4 the area of the face and back, and shall be evenly distributed. For walls 2 feet (600 mm) thick or less, headers shall extend entirely through the wall. For thicker walls, front, back and intermediate headers shall be arranged to lap at least 12 inches (300 mm).

610.13.1.1 All joints on the exposed faces shall be raked out to a depth of approximately 1 1/2 inches (40 mm) and shall be thoroughly wetted. They shall then be filled flush with mortar pressed tightly into place with suitable tools, and cured with transparent curing membrane.

610.13.1.2 During cold weather, the limitations and protection requirements of Secs 502.4 and 502.4.1 shall apply to the grout and concrete.

610.13.2 Rubble Masonry Laid Dry. Dry rubble masonry shall be built with broken joints and placed in a manner forming a solid self-supporting wall. After the stone has been placed,

the voids shall be filled with spalls or small stones so that all stones are tightly wedged or keyed. The finished wall shall have a uniform surface.

610.13.3 Excavation for rubble masonry shall be of sufficient width and depth to permit the proper placing of the stones on a firm, solid foundation or footing. Backfilling shall be done to the finished ground line with suitable material placed in layers, and each layer firmly compacted into place.

610.14 Method of Measurement. Measurement will be made to the nearest 1/10 cubic yard (0.1 m^3) in accordance with the dimensions shown on the plans or as revised by the engineer during construction. Copings and footings will generally be made of concrete and will be measured and paid for as concrete masonry. Excavating and backfilling will be measured and paid for as Class 3 Excavation in accordance with the requirements of Sec 206.

610.15 Basis of Payment. The accepted quantity of rubble masonry will be paid for at the unit price for each of the pay items included in the contract.

SECTION 610.20 BRICK MASONRY

610.21 Description. This work shall consist of brick laid in a mortar bed in conformity with the lines, grades and dimensions shown on the plans or as directed by the engineer.

610.22 Material.

610.22.1 Sewer brick shall meet the requirements of AASHTO M 91 and shall be Grade MM or Grade SM as specified in the contract.

610.22.2 Mortar shall meet the requirements of Sec 1066.1.3.

610.23 Construction Requirements. Brick shall be thoroughly wetted and laid with full mortared vertical and horizontal joints. The work shall be constructed with sufficient header courses to tie the brick masonry together. Full mortar beds shall be provided for setting any proposed castings, and the castings shall be set to the required elevation. Brick masonry around pipe or tile shall be carefully constructed to provide watertight connections. Masonry shall not be laid in freezing weather without the use of such precautions as the engineer may approve.

610.24 Method of Measurement. Measurement will be made to the nearest cubic foot (0.1 m^3). Any concrete masonry in connection with brick masonry will be measured and paid for as concrete masonry.

610.25 Basis of Payment. The accepted quantity of brick masonry will be paid for at the contract unit price.