

## SECTION 508 - CEMENT RUBBLE MASONRY

**508.01 Description.** This work includes accepted stones laid in full mortar \*|  
beds. The Contractor shall construct the work according to the contract. \*|

**508.02 Materials.**

**(A) Stone.** The stones shall be clean, hard, sound, and durable. Each stone, except stones for filling or pinning interstices, shall have a thickness of not less than six (6) inches and a width of not less than one and a half (1-1/2) times the thickness or less than twelve (12) inches. Except headers, each stone shall have a length of not less than \*|  
one and a half (1-1/2) times its width.

Face stone shall have a volume of not less than 0.75 cubic foot.  
Heart stone shall have a volume of not less than 0.5 cubic foot.

**(B) Mortar.** Mortar includes one (1) part cement to two (2) parts of \*|  
fine aggregate or beach sand by volume. The Contractor shall add \*|  
sufficient water to make the mortar easy to handle and spread with a \*|  
trowel. In preparing the mortar, the Contractor shall mix the fine \*|  
aggregate and cement first dry in a tight container or mixing machine  
until the mixture assumes a uniform color. As the mixing continues, the  
Contractor shall add the water until the Contractor attains the proper \*|  
consistency. The Contractor shall not use mortar that the Contractor has \*|  
not placed within thirty (30) minutes after the Contractor has added the \*|  
water. The Engineer will not permit retempering of mortar. \*|

Mortar for pointing includes one (1) part cement to one (1) part \*|  
fine aggregate or beach sand by volume.

**(C) Other Materials.** Other materials shall conform to the following: \*|

Portland Cement	701.01
Fine Aggregate for Concrete	703.01
Water	712.01

**508.03 Construction Requirements.** The Contractor shall construct the cement \*|  
rubble masonry by experienced workmen. The Contractor shall use selected \*|  
stones, roughly squared and pitched to lines at angles and ends of walls. The \*|  
Contractor shall wet the stones thoroughly before laying. The Contractor \*|  
shall lay the stones on beds that are approximately horizontal. The \*|  
Contractor shall select large, flat stones for the bottom course. The \*|  
Contractor shall bed the stones fully in portland cement mortar. The stones \*|  
shall be over-lapping joints at least six (6) inches and form a firm bond.

The Contractor shall distribute the headers uniformly throughout the walls of the structures to form at least one-fifth (1/5) of the exposed faces. The headers shall extend at least twelve (12) inches through the face wall into the backing. Where a wall is less than twenty-four (24) inches in thickness, the headers shall extend through the wall from the front face to the back face.

The Contractor shall build the interior of the walls up so that the Contractor bonds the stones without open spaces. Horizontal joints in the face shall not exceed one (1) inch in thickness and the vertical joints shall not exceed two (2) inches in width. The Contractor shall bed the face stones well without spalls. Walls shall have weep holes where shown in the contract or as ordered. If the Contractor loosens a stone after the mortar has set, the Contractor shall remove the stone and the surrounding mortar. The Contractor shall relay the stone with fresh mortar.

The Contractor shall finish the wall with a two (2) inch mortar capping. The mortar capping includes one (1) part cement to two (2) parts fine aggregate or beach sand.

The Contractor shall make copings, bridge seats, and back walls of Class A Concrete. The Contractor shall make copings in sections. The Contractor shall extend at least the full width of the wall, not less than eight (8) inch thick, and in sections from five (5) feet to eight (8) feet long. The Contractor may cast-in-place or mold and set the sections in full mortar beds.

After the Contractor lays the stones, the Contractor shall clean the exposed joints thoroughly of mortars to a depth of one (1) inch. The Contractor shall then wet the exposed joints and point with portland cement mortar. The Contractor shall cure the pointed masonry and mortar capping satisfactorily not less than three (3) days after completion of the wall.

The Contractor shall excavate and backfill according to Section 206 - Excavation and Backfill for Conduits and Structures.

**508.04 Method of Measurement.** The Engineer will measure cement rubble masonry by the cubic yard according to the dimensions shown in the contract or ordered.

The Engineer will not measure cement rubble masonry when contracted on a lump sum basis.

**508.05 Basis of Payment.** The Engineer will pay for the accepted quantities of cement rubble masonry at the contract unit price per cubic yard or on a lump sum basis complete in place.

The Engineer will make payment under:

\*|

Pay Item	Pay Unit
Cement Rubble Masonry	Cubic Yard
Cement Rubble Masonry (___ Cu. Yd.)	Lump Sum

The Engineer will pay for excavation and backfill according to Section \*|  
206 - Excavation and Backfill for Conduits and Structures.

SECTION 509 - (Unassigned)

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