

**NATURAL RESOURCES CONSERVATION SERVICE
CONSERVATION PRACTICE SPECIFICATION
STRUCTURE FOR WATER CONTROL – RUBBLE MASONRY
CODE 587R**

1. SITE PREPARATION

- a. Make all excavation to planned lines and grades to adequately allow proper placement and installation at the structure.
- b. Keep out or remove all water or mud from the excavated area prior to the placement of the structure and maintain the working area in this condition during construction.

2. MATERIAL FOR MORTAR

- a. Cement. Only Type II or Type II low alkali Portland cement shall be used in the mortar for the structure. Mortar shall consist of one part cement to three parts sand by volume and four pounds of hydrated lime per sack of cement.
- b. Sand. Aggregates shall be clean, hard, durable particles and shall be graded within the following limits, depending upon whether natural sand or manufactured sand is to be used.

<u>Sieve Size</u>	<u>Percentage Passing</u>	
	<u>Natural Sand</u>	<u>Manufactured Sand</u>
No. 4	100	100
No. 8	95-100	95-100
No. 16	70-100	70-100
No. 30	40-75	40-75
No. 50	10-35	20-40
No. 100	2-15	10-25
No. 200	-	0-10

Local material may be used if approved by the engineer.

- c. Water. Only clean water, free from injurious amounts of oil, acid, salts, alkalis, organic material, or other deleterious substance shall be used. Generally, water suitable for drinking may be used.

3. ROCK

Rock shall be clean, hard, durable, and free from seams or other imperfections.

4. PLACING

Rock shall be thoroughly cleaned, moist, and placed in a full mortar bed. All rock should be placed on its broadest face. Mortar shall be placed within one and one-half (1½) hours after the water has been added to the cement and aggregates. All construction shall be placed on undisturbed earth or on a foundation approved by the Engineer.

5. PROTECTION FROM FREEZING

Rubble masonry shall not be placed during freezing weather unless adequate protection is provided to keep the rock and mortar temperature at least 40 degrees F for a period of not less than seven (7) days.

6. FINISHING

Working of the unformed surfaces will be the minimum necessary to produce the desired finish. No voids shall be allowed.

7. CURING

All rubble masonry shall be cured for a period of not less than seven (7) days. It may be moist-cured by maintaining all surfaces continually wet for the duration of the curing period; it may be cured by using a curing compound conforming to ASTM C 309. The curing compound shall be sprayed uniformly over the entire surface using 1.0 gallon of compound per 150 square feet. Use only white pigmented compounds.

8. BACKFILL

Backfill shall be placed carefully against all indicated portions of the works so as not to disturb the finished structure. No backfill or other load will be placed against rubble masonry surfaces prior to 72 hours after placing of the last material. Compaction will be by hand tamping, hand operated mechanical tampers, or other methods approved by the

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engineer using selected earth moist enough to form a tight ball when squeezed in the hand and placed in horizontal layers not exceeding six (6) inches in thickness before compaction. Maximum size of rock in the backfill shall not exceed two inches.

9. DISPOSAL OF MATERIAL

Any excavated material not needed or designated as not suitable for backfill shall be disposed of by placing it in a neat, workmanlike manner in locations designated by the Engineer.

10. MEASUREMENT

Measurement of rubble masonry will be made on the basis of actual volume within the neat lines of the structure and will be computed to the nearest one-tenth (1/10) cubic yard.