

## **Subsection 4.21 Brick Paving and Repair**

- I. Scope:** This Subsection shall govern the removal, cleaning, storing, and relaying brick for streets.
- II. Materials**
- A. Sand:** Fine aggregate sand for bedding and joints shall meet the requirements of Subsection 4.07.II.E “Fine Aggregates.”
- B. Cement:** Portland cement shall be Type II conforming to the requirements of ASTM C150.
- C. Concrete:** Concrete shall conform to 4000 psi concrete detailed in Subsection 4.07 “Concrete.”
- D. Bricks:** Existing brick shall be salvaged, cleaned and reused whenever possible. Reusable brick shall have no more than 2 broken corners and be at least 6 inches in length. The ODR’s representative shall approve for reuse all salvaged brick. Additional brick necessary to complete the project may be obtained from the City of Amarillo at North Echo Street and Hazell Avenue. The Contractor is responsible for cleaning all bricks, including those supplied by the City. The contractor is responsible transporting the bricks supplied the City and shall return all unused bricks.
- III. Equipment:** The Contractor shall supply all equipment required to remove and replace bricks.
- IV. Construction Methods**
- A. Brick removal:** The contractor shall remove existing brick in a manner that assures the least amount of damage to the brick. Removal methods must be approved by the ODR. Motor graders, backhoes, front end loaders, other large equipment will not be allowed to remove or handle bricks. Bricks shall not be thrown, tossed, or dropped during handling. Existing concrete damaged during removal shall be replaced by the contractor.
- B. Cleaning brick:** Bricks shall be evaluated by the City project representative upon removal, reusable brick shall be stacked. Brick deemed unsalvageable will be disposed of by the Contractor. Bricks designated for reuse shall be cleaned so they are free of paint, oil, asphalt and other foreign matter. Sandblasting of the brick will not be permitted. The cleaning method shall be approved by the ODR.
- C. Storage of bricks:** Cleaned brick shall be stored by the Contractor until reused. The Contractor shall be responsible for protecting bricks from damage and theft. Excess

brick shall be delivered and stacked at a designated location.

**D. Concrete Base:** A concrete base shall be placed as detailed in the plans. Subgrade will be compacted to the density of surrounding material. The surface of the concrete shall receive a rough textured broom finish. The concrete surface shall be placed to the lines and grades shown in the plans. The finished surface shall not vary more than ¼ inch when measured along the length of a 16 foot long straight edge lain in any direction on the surface. Concrete shall be given proper curing at outlined in Subsection 4.10 “ Structural Concrete.”

**E. Relaying of Bricks:** Bedding sand shall be placed on the concrete at the depth shown on the plans. Sand shall have a uniform moisture content of 3% to 7% and compacted. Sand bedding shall be screeded to a uniform thickness and profile such that when bricks are placed and compacted they conform to the lines and grades shown in the plans.

Bricks shall be placed in the same pattern as existed before removal. Placement shall begin immediately after compacting and screeding the sand bedding. The pattern will be maintained true by compressing with an edge board and hammer or other approved method at a minimum interval of every 10 rows. Joints shall be tight and gaps shall not exceed ¼ inch.

Bricks shall be compacted on the bedding sand using a high frequency, low amplitude, flat plate mechanical vibrator. All brick placed in a day shall be compacted in-place the same day. Compacting operations will follow placement as closely as possible, but not closer than 3 feet from laying edge. Brick damaged during placement or compaction shall be removed and replaced.

After compaction, joint sand mixed uniformly with 6 parts sand and 1 part cement and shall be spread onto the brick surface and vibrated into joints through repeated vibratory passes and brushing across the surface. This process may require repeated applications to completely fill all joints. Excess joint sand shall be swept off and removed from the surface.

**V. Measurement:** Completed and accepted brick street with be measured by the square yard. Work subsidiary to Item 4.01 will not be paid for under this item, but shall be considered subsidiary to to that item.

**VI. Payment:** The work performed and materials furnished as prescribed by this subsection and measured as provided will be paid for at the unit bid. The prices shall be full compensation for preparing the subgrade, placing concrete base, placing bedding sand and installing brick complete in place. All materials, manipulation, labor tools, equipment, and incidentals necessary to complete the work will be included in this price.

**END OF THIS SUBSECTION**