

SECTION 632 - CRIBBING

632-1 DESCRIPTION

632-1.01 General. This work shall consist of all work required for furnishing and placing precast concrete cribbing or metal bin-type retaining walls including all excavation and filling in the manner specified by contract documents or by Engineer. Other types of cribbing not shown on the standard sheets may be furnished and placed, if approved by the D.C.E.S.

632-1.02 Definitions. The following general definitions shall be used in conjunction with this section:

- A. Unit.** Any single piece used to construct precast concrete cribbing or metal bin-type retaining walls. For precast concrete cribbing the work unit shall include but not limited to, stretchers, headers, (both closed and open face), coping, bearing blocks, full sections, half sections, end sections, and leveling footings. For metal bin-type retaining walls the work unit shall include, but not be limited to, stringers, spacers, columns, column caps, stringer stiffeners and base plates.
- B. Bin.** Any volumetric space which is designated to be filled with backfilling material, as defined in this section, and is enclosed on all four sides by precast concrete cribbing units, or metal bin-type retaining wall units.
- C. Wall.** A series of units to form bins connected in unbroken sequences that, when filled with backfill material, they will act as a single entity (i.e., a retaining wall).

632-2 MATERIALS

632-2.01 Unit Materials. Materials shall meet the requirements specified in the following subsections of sec. 700 - Materials:

Precast Concrete Cribbing	704-06
Metal Bin-Type Retaining Wall	715-11

632-2.02 Backfill. Backfill Material shall conform to the material requirements for either Stone Filling (Fine), as specified in sec. 620-2.01 and 620-2.02, or Select Granular Fill and Select Structure Fill as specified in sec. 203-2.01 and 203-2.02c.

632-3 CONSTRUCTION DETAILS

632-3.01 Precast Concrete Cribbing.

- A. Excavation.** Excavation shall be conducted in accordance with the applicable requirement of sec. 206, Trench, Culvert and Structure Excavation, and the detail specified in the contract documents. Prior to erection of the cribbing, the foundation shall be inspected and approved by the Engineer.
- B. Erection.** All units shall be assembled and handled in accordance with the manufacturer's instructions, and the contract documents. In the event of a conflict between contract documents and the manufacturer's instructions, the Engineer shall decide which course to follow. During erection, any units damaged beyond repair shall be removed and replaced, by the Contractor, with approved units. The Contractor shall use precast leveling footers. Cast-in-place leveling footings will not be permitted.

C. Backfill. Immediately prior to backfilling, the Engineer shall inspect units for damage. Units, which are determined by the Engineer to be damaged by repair, shall be rejected. Rejected units shall be replaced by the Contractor. Filling the interior of the bins and behind the walls shall progress simultaneously with the erection of the units and material shall be placed as specified in sec. 203-3.15, Fill and Backfill at Structures, Culverts, Pipes, Conduits and Direct Burial Cables.

D. Contractor Responsibility. Movement of construction equipment and all other vehicles and loads over and adjacent to walls shall be done at the Contractor's risk. Any damage to bins and units from any cause whatsoever shall be repaired or replaced by the Contractor in a manner satisfactory to the Engineer.

632-3.02 Metal Bin-Type Retaining Walls. The provisions specified in sec. 632-3.01, Precast Concrete Cribbing, shall apply with the following additions and modifications:
The ends of all stringers and spacer units shall be bolted to corner columns by means of connecting channels.
In the construction of a wall on a curve, the proper curvature for the face shall be obtained by the use of shorter stringers in the front or rear units, of walls as designed on the plans or the Engineers
The wall height and depth may be varied, but not to exceed the maximum dimension shown for the design selected. Two or more wall designs may be incorporated in the same wall by the use of standard split columns to make the connections on the step-back.

632-4 METHOD OF MEASUREMENT

632-4.01 Cribbing or Retaining Wall. Cribbing or retaining wall shall be measured by the number of square feet of the front face computed between the payment lines shown on the plans or between payment lines established, in writing, by the Engineer.

632-4.02 Excavation and Disposal of Excavated Material for the Installation of Cribbing or Retaining Wall. Excavation and disposal of excavated material shall be measured by the number of cubic yards of material measured in its original position between the payment lines shown on the plans or between lines established, in writing, by the Engineer.

632-4.03 Backfill for the installation of Cribbing or Retaining Wall. Backfill shall be measured by the number of cubic yards of material, computed between the payment lines shown on the plans or between payment lines established in writing by the Engineer. Deductions for the volume of the units of precast concrete cribbing will be made. No deduction will be made for the volume of a metal-bin unit.

632-5 BASIS OF PAYMENT

632-5.01 Cribbing or Retaining Wall. The unit price bid shall cover the cost of furnishing all materials, labor and equipment necessary to complete the work including leveling footings required for precast concrete wall units, and the replacement or repair of any materials damaged by the Contractor's operations.

632-5.02 Excavation and Disposal of Excavated Material for the Installation of Cribbing or Retaining Wall. The unit price bid shall include the cost of labor, material and equipment necessary to complete the work.

632-5.03 Backfill for Installation of Cribbing or Retaining Walls. The unit price bid shall include the cost of all material, labor and equipment necessary to complete the work. No direct payment will be made for any loss of material which may result from compaction, foundation settlement, erosion, or any other cause; the cost of such losses shall be included in the price bid unless the item "Applying Water" is included in the proposal.

Payment will be made under:

Item No.	Item	Pay Unit
632-101	Concrete Cribbing (Stretcher and Header Type)	Square Foot
<u>632.0102</u>	Concrete Cribbing (Precast Concrete Wall Type Unit)	Square Foot
632.02	Metal Bin-Type Retaining Wall	Square Foot
632.0501	Excavation for Concrete Cribbing (Stretcher and Header Type)	Cubic Yard
632.0502	Excavation for Concrete Cribbing (Precast Concrete Wall Unit Type)	Cubic Yard
632.0503	Excavation for Metal Bin-Type Retaining Wall	Cubic Yard
632.0601	Backfill for Concrete Cribbing (Stretcher and Header Type)	Cubic Yard
632.0602	Backfill for Concrete Cribbing (Precast Concrete Wall Unit Type)	Cubic Yard
632.0603	Backfill for Metal Bin-Type Retaining Wall	Cubic Yard