[square feet] of exposed granite masonry, including joints, in the completed work and measured from the pitch lines as shown on the plans.

525.10 Basis of Payment Granite masonry will be paid for at the contract unit price per square meter [square foot] complete in place and accepted. This price shall include all materials, labor and incidentals necessary to complete the work. The cost of the anchors, completed and in place, shall be included in the contract unit price of this item.

Payment will be made under:

Pay Item		Pay Unit
525.30	Granite Masonry	square meter [Square Foot]

SECTION 526 - CONCRETE BARRIER

526.01 Description This work shall consist of the furnishing, constructing, erecting, setting, resetting, and removal of concrete barrier and associated elements in accordance with these specifications and the lines and grades shown on the plans or established by the Resident.

The types of concrete barrier are designated as follows:

Temporary Concrete Barrier Type I Double faced removable concrete barrier of the shape shown on the plans.

Permanent Concrete Barrier Type II Double face barrier of a shape shown on the plans.

Permanent Concrete Barrier Type IIIa Single face barrier 825 mm [32 in] high of a shape shown on the plans.

Permanent Concrete Barrier Type IIIb Single face barrier 1075 mm [42 in] high of a shape shown on the plans.

Permanent Concrete Transition Barrier Barrier of various heights joining steel bridge rail to steel guardrail.

Permanent Texas Classic Rail Barrier, either traffic rail or sidewalk rail, as shown on the plans.

526.02 Materials

a. Concrete Portland Cement Concrete shall meet the provisions of Section 502 - Structural Concrete, and portland cement shall conform to the requirements of AASHTO M85, Type I, II, or III.

Concrete for permanent barriers shall be Class LP, in accordance with Section 502.05 - Composition and Proportioning.

Concrete for temporary barriers shall be portland cement concrete. The state reserves the right to take test core samples from the barriers in accordance with ASTM C42. Average compressive test strengths below 17 MPa will result in rejection of the barriers.

b. Reinforcing Steel Reinforcing steel shall meet the requirements of Section 503 - Reinforcing Steel.

c. Structural Steel The bearing plate shall meet the requirements specified in Section 713.01 - Structural Steel.

d. Tests Materials shall meet the following ASTM Standards where applicable:

A 82 Specification for cold drawn steel wire for concrete reinforcement
A 185 Specification for welded steel wire for concrete reinforcement
A 416 Specification for uncoated seven wire low-relaxation strand for prestressed concrete
A 496 Specification for deformed steel wire for concrete reinforcement
C 31 Making and curing concrete test specimens in the field
C 33 Specification for concrete aggregates
C 39 Test for compressive strength of cylindrical concrete specimens
C 42 Obtaining and testing drilled cores and sawed beams of concrete

526.03 Construction Requirements Permanent Concrete barrier shall be constructed in accordance with the provisions of Standard Specification Section 502.05 - Composition and Proportioning, through Section 502.15 - Curing Concrete, inclusive, with the following additions:

a. The following is added to Section 502.10 A. - Construction of Forms, after Construction of Forms: "Permanent concrete barrier may be formed by cast-in-place or slip forming methods. Temporary concrete barrier may be formed by precasting and/or prestressing methods. Precasting and/or prestressing methods may be used for other barriers with the approval of the Resident."

b. The following is added to Section 502.14: D. - Form Surface Finish "Concrete finish shall be equal to a steel form finish.''

c. The following paragraphs are added to the end of Section 502.15 - Curing Concrete
"Liquid membrane-forming compounds may be used for curing concrete barriers, if approved by the Resident. If allowed, the membrane-forming compound shall not contain fugitive dye or other agents, which will discolor the concrete."

When the slip forming method is used, a dissipating curing compound shall be applied to the concrete during placement, and then wet curing shall proceed in accordance with this Section.

In addition to the foregoing methods of curing concrete, barrier may be cured by an accelerated curing method using low-pressure steam or radiant heat in a moist atmosphere. Other methods of curing may be used if approved by the Resident.

If called for, protective coating shall be applied in accordance with Standard Specification Section 515 - Protective Coating for Concrete Surfaces."

Temporary concrete barrier shall be generally free from fins and porous areas and shall present a neat and uniform appearance.

Permissible dimensional tolerances for all concrete barriers shall be as follows:

a. Cross-sectional dimensions shall not vary from design dimensions by more than 6 mm [¼ in]. The vertical centerline shall not be out of plumb by more than 6 mm [¼ in].

b. Longitudinal dimensions shall not vary from the design dimensions by more than 6 mm per 3 m [¼ in per 10 ft] of

barrier section and shall not exceed 20 mm [¾ in] per section.

c. Location of anchoring holes shall not vary by more than 13 mm [½ in] from the dimensions shown in the concrete barrier details on the plans.

d. Surface straightness shall not vary more than 6 mm under a 3 m [¼ in under a 10 ft] straightedge.

e. The barrier shall have no significant cracking. Significant cracking is defined as fractures or cracks passing through the section, or any continuous crack extending for a length of 300 mm [12 in] or more, regardless of position in the section.

526.04 Method of Measurement Concrete Barrier Type II, IIIa, IIIb, and Texas Classic Rail will be measured for payment by lump sum complete in place.

Temporary concrete barrier will be measured for payment by the meter from end to end of each run of barrier measured along the centerline of the barrier complete in place or by the lump sum unit as specified. No deduction in pay length will be made for joints between abutting barrier sections.

When temporary concrete barrier is measured by the lump sum unit, measurement will consist of verification of the installation and removal of all concrete barrier required by the plans for the Contractor's operations.

The Contractor shall replace sections of temporary concrete barrier damaged by the traveling public when directed by the Resident. Replacement sections will be measured for payment.

Transition barrier will be measured by each barrier connecting bridge rail to guardrail complete in place.

The bid price for concrete barrier shall include payment for barrier reinforcing steel, cable and fixtures; no separate payment shall be made for these items.

526.05 Basis of Payment The accepted quantities of Texas Classic Rail, Type II, IIIa, and IIIb concrete barrier will be paid for at the contract lump sum price for the type specified, complete in place. Such payment shall be full compensation for furnishing all material to assemble and all incidentals necessary to complete the work.

The accepted quantities of Temporary Concrete Barrier Type I will be paid for at the contract unit price per meter or lump sum, as specified, complete in place. Such payment shall be full compensation for furnishing all material, assembling and all incidentals necessary to complete the work.

When temporary concrete barrier is paid for at the lump sum price, such price shall be full compensation for furnishing all materials, assembling, moving and resetting, transporting, temporary storing, removing, furnishing new parts as necessary, and all incidentals necessary to complete the work.

Payment for resetting temporary concrete barrier shall be full compensation for removing, transporting, temporary storing, resetting and furnishing new parts as necessary. No additional payment shall be made for temporary concrete barrier removed and not reset.

Temporary barrier shall become the property of the Contractor upon completion of the use of the barrier on the project, and shall be removed from the project site by the Contractor.

Transition barrier will be paid for at the contract price each complete in place, and will be full compensation for furnishing all material and incidentals necessary to complete the work.

Payment will be made under:

Pay Item		Pay Unit
526.30	Temporary Concrete Barrier, Type I	Meter [Linear Foot]
526.301	Temporary Concrete Barrier, Type I	Lump Sum
526.312	Permanent Concrete Barrier Type II	Lump Sum
526.321	Permanent Concrete Barrier Type IIIa	Lump Sum
526.323	Texas Classic Rail	Lump Sum
526.331	Permanent Concrete Barrier Type IIIb	Lump Sum
526.34	Permanent Concrete Transition Barrier	Each
526.40	Resetting Temporary Concrete Barrier Type I	Meter [Linear Foot]