

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
512.081 French Drains	Lump Sum

SECTION 513 - SLOPE PROTECTION

513.01 Description This work shall consist of excavating for, and placing of, a protective covering on designated slopes in accordance with these specifications and in reasonably close conformity with the lines, grades and thickness as shown in the Contract.

513.02 Materials Materials shall meet the requirements of the following Sections of Division - 700 Materials.

Crushed Stone	703.31
Reinforcing Steel	709.01

Portland cement concrete for slope protection shall be Class "A" and shall meet the requirements of Section 502 - Structural Concrete.

513.03 Portland Cement Concrete The slope on which the reinforced concrete for slope protection is to be placed shall be free of frost and frozen material and shall be well compacted. If additional fill material is required to bring the slope to the proper grade, it shall be of the same type material as that required for the slope protection foundation. Immediately prior to placing the concrete, the area to be covered shall be thoroughly dampened.

The portland cement concrete shall be placed in alternate sections. Each individual section shall be placed by starting at the lowest extremity of the section and progressing upward on the slope. The reinforcement shall not extend through the construction joints and the bond between sections shall be broken by the application of approved asphalt cement on the edges of the previously placed slabs.

The surface of the concrete shall be float finished in accordance with the requirements of Section 502 - Structural

Concrete and textured by brooming lightly and uniformly with an approved broom. An edging tool shall be used on the surface edges of each section and a groover at the transverse centerline of each section. The exterior surface from the edging or grooving shall be finished to match the interior surface.

Construction procedures shall be in accordance with Section 502 - Structural Concrete, except that the curing period will be 5 days.

513.04 Crushed Stone Crushed stone shall be placed on granular material as shown on the plans. The finished slope shall be worked to present a smooth and uniform surface.

513.05 Drains or Weep Holes Drains or weep holes through the slope protection shall be pipe of the size and shape shown on the plans and shall be constructed of approved cast iron, tile, fiber or other material that will maintain its shape and alignment during placement of the concrete. Care shall be taken not to cover the drains when installed, or when concrete is placed.

513.06 Method of Measurement Slope protection will be measured by the number of square meters [square yards] of surface area acceptably covered in accordance with the Contract.

513.07 Basis of Payment The accepted quantity of slope protection will be paid for at the contract unit price per square meter [square yard]. Payment will be full compensation for excavating, shaping and compacting the slope prior to placing bedding, and slope protection and shall also include the bedding material. Excavating from original ground to the face of the slope protection will be paid under the appropriate contract item.

Payment for portland cement concrete slope protection shall be full compensation for furnishing and placing all material, including reinforcement, and for all labor and other incidentals, including drains and weep holes, necessary to complete the work.

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
513.09 Slope Protection-Portland Cement Concrete	square meter [Square Yard]

SECTION 514 - CURING BOX FOR CONCRETE CYLINDERS

514.01 Description This item shall consist of furnishing, installing, operating, and maintaining an approved thermostatically controlled curing box for concrete test cylinders, with the equipment as herein specified.

514.02 General The curing box shall be for the sole use of the Resident for the duration of the contract. The Contractor shall relocate the curing box to a new location, as directed, whenever considered necessary during the progress of the work. The Contractor shall furnish and maintain the electrical power and all utility connections necessary for the operation of the curing box. The Contractor shall monitor and maintain the internal temperature and water level of the box. The Resident shall be provided 2 locks, each with 2 keys, to be used with the 2 securing latches. A lock for the switch box, with 2 keys shall be furnished.

514.03 Construction Details The curing box for 150 mm [6 in] diameter by 300 mm [12 in] long concrete cylinders shall have dimensions sufficient to allow storage of a minimum of 18 cylinders. The top of the curing box shall be a lid hinged at the back with at least 2 securing latches on the front suitable for sealing and locking the curing box. The free movement of the lid shall be restricted to an angle of approximately 100° from the closed position to an open position. For metal boxes subject to corrosion, all interior surfaces shall have rustproof protection and the exterior surfaces shall be substantially painted with an approved paint. A moisture-proof seal, constructed of an approved cellular strip of 2BE520F26 synthetic rubber complying with the requirements of ASTM D2000, shall be provided between the lid and body of the curing box.

The curing box shall be constructed so that the required temperature and humidity within the box can be maintained using an immersible 1000 watt (minimum) heating element, when the heating element is immersed in water, approximately 100 mm [4 in] in depth, at the bottom of the box. The heating element shall be located to provide free access for cleaning and for adequate circulation of the surrounding water. A drain shall be provided for the water, located at the lower front edge of the box. Access shall be provided to all parts of the box for cleaning. The electrical utility connection to the source of power shall be made in a lockable switch box that is securely attached to one end of the curing box.