

SECTION 914 -- PIPE UNDERDRAINS

914.01 -- Description

The Contractor shall furnish and install pipe underdrains and underdrain headwalls as prescribed in the plans.

914.02 -- Material Requirements

1. All materials shall conform to the requirements in Table 914.01.

Table 914.01

Material Requirements	
Applicable Materials	Section
Corrugated Pipe Underdrains.....	1035
PVC.....	1038
Granular Backfill Material	1033.02A
	Class B Aggregate

2. Aggregate that is placed in the trench shall conform to any of the gradation requirements for concrete fine aggregate in Table 1033.02A, Class B aggregates.

3. Filter fabric shall be on the NDR Approved Products List.

914.03 -- Construction Methods

1. a. The trench for laying pipe underdrains shall be excavated beginning at the outlet end and proceeding toward the upper end, true to the required line and grade.

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- b. Trenches shall be of sufficient width to provide working space on each side of the pipe, and in no case shall the width of the trench be less than 375 mm.

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- c. Any material excavated below the proper grade shall be restored in kind to proper bearing capacity.

2. Pipe underdrains shall be laid upon a 75 mm well-compacted layer of the approved granular material with the pipe perforations downward. Grade and alignment shall not vary from prescribed grade by more than 9 mm at any point. The joints between sections of pipe shall be made with connecting bands, couplers, or bell and spigot connections. Corrugated metal pipe bands will be used to connect all corrugated metal pipes.

3. Dead ends of pipe shall be tightly closed with satisfactory plugs. Discharge ends shall be protected with a suitable screen.

4. If unsuitable foundation soils are present, other suitable material shall be placed under the pipe to prevent displacement.

5. a. Once the pipe is in place, it shall be covered immediately with granular material conforming to any of the gradation requirements specified in Table 1033.02A, Class B aggregates as prescribed in the plans.

b. The granular material shall be of uniform depth on either side of the pipe.

c. The backfill above the granular material shall be placed in accordance with the requirements of Section 702.

6. Special inlets and special devices at the outlet end of the pipe shall be constructed as shown in the plans.

7. a. The underdrain headwalls shall be constructed as shown in the plans.

b. The concrete for the headwalls shall be Class 47B-20.

8. The Contractor shall place filter fabric as indicated in the plans.

914.04 -- Method of Measurement

1. Each size of pipe underdrains shall be measured in meters along the centerline of the pipe.

2. Headwalls will be measured by the each.

914.05 -- Basis of Payment

<u>Pay Item</u>	<u>Pay Unit</u>
_____ Perforated Pipe Underdrain	Meter (m)
_____ Perforated _____ Pipe Underdrain	Meter (m)
_____ Nonperforated Pipe Underdrain	Meter (m)
_____ Nonperforated _____ Pipe Underdrain	Meter (m)
Underdrain Headwall	Each (ea)
2. Filter fabric is subsidiary to the appropriate underdrain pay item.	
3. Payment is full compensation for all work prescribed in this Section.	