Roadside Ditch and Channel Protection Device
Erosion and Sediment Control
GUIDE SPECIFICATION

PRODUCT:
Ditch Guard™

MANUFACTURER:
ERTEC®
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1.0 Description:

Roadside Ditch and Channel Protection Device shall conform to the details shown on the plans and these special provisions and shall be installed as a velocity interruption device in graded roadside ditches or swales or other channels with concentrated flow where soil has been disturbed and graded. The intended function of the device is to disperse or spread concentrated water runoff, to reduce runoff velocities and significantly reduce movement and accumulation of sediment.

2.0 Material:

Materials shall conform to the provisions in these special provisions.

Roadside Ditch Protection Device (RDPD)

RDPD is an inverted T- shaped assembly comprising semi-rigid, overlapping layers of apertured polymeric high density polyethylene (HDPE) sheets, and optionally one or more integrated filter sheets. Each segment shall be 3.3 feet long and have minimum vertical freeboard of 9” or 5”, secured in place with 6” nails (60D Bright Common) and Stakes (1”x1”x18”) and shall conform to the following:

A. The RDPD must have an integrated permeable or impermeable base and conform to the following:

Specification	Requirements
Freeboard Height, minimum (inches)	5.0 / 9.0
Length / Usable Length (inches)	3.3 / 3.0
Outer Jacket Tensile Yield ASTM D-638 PSI	1800 - 2800
Outer Jacket – strands per inch	4
Outer Jacket – strand size (inches) (min)	0.0685
Ultraviolet stability (outer jacket & filter), percent tensile strength retained after 500 hours, min. ASTM Designation: D 4355	90
Life in application (years - minimum)	4

* or appropriate test method for specific polymer

B. A copy of the manufacturer’s product sheet together with instructions for installation shall be furnished to the Engineer 5 days before installation.

3.0 Installation:

Roadside Ditch Protection Device shall be installed as follows:

A. A surface shall be prepared across the ditch, perpendicular to the flow. The cleared surface shall be free of obstructions including, but not limited to, rocks, clods, and debris. Install segments across the ditch. At the segment overlaps, overlay one section onto the adjoining section as per the installation instructions.
B. Overlap segments by a minimum of 4 inches. Segments fit over the top and overlap with adjoining segments. See installation instructions.
C. Install 6" Nails (60D Bright-Common) – minimum 4 nails per segment on upstream edge. Minimum 2 anchors per segment on downstream edge.
D. Install 1"x1"x18" or 1"x2"x18" stakes on downstream side of upright. Precut holes are available for this purpose. Install two stakes per segment. Pound top of stakes flush with top of vertical section.
E. Backfill and cover front or upstream flap with soil to a level of 2 inches.
F. Spacing between check-dams is as follows:

Freeboard Height – 5"		**Freeboard Height – 9"**
1% Gradient	42 feet apart	76 feet apart
2% Gradient	21 feet apart	38 feet apart
3% Gradient	14 feet apart	25 feet apart
4% Gradient	10 feet apart	19 feet apart
5% Gradient	8 feet apart	15 feet apart
6% Gradient	7 feet apart	12 feet apart
7% Gradient	6 feet apart	11 feet apart
8% Gradient	5 feet apart	9 feet apart

G. The elevation at the bottom surface at the end of each run should be higher than the top elevation at the center of the run to prevent water flanking. If this is not the case – a weir can be cut into the center. After cutting weir so that spill point is low enough to prevent flanking – suture outer jacket with black UV stable cable ties.

4.0 Maintenance:

Perform maintenance as required. Inspect following rainfall events and at least daily during prolonged rainfall. Maintain to provide an adequate sediment holding capacity. Sediment shall be removed when the sediment accumulation reaches half the vertical height. Removed sediment shall be incorporated in the project at designated locations or disposed-of outside the project or in conformance with requirements. Damage to RDPD resulting from the Contractor's vehicles, equipment, or operations shall be repaired at the Contractor's expense.

Locations where rills and other evidence of concentrated runoff have occurred beneath the barrier strips shall be corrected. Segments needing repair shall be repaired or replaced within 24 hours of identifying the deficiency.

5.0 Method of Measurement:

Quantities of RDPD material to be paid for will be determined by the linear foot measured along the centerline of the installed strip. Where segments are joined and overlapped, the overlap will be measured as a single installed strip.

6.0 Basis of payment:

The contract price paid per linear foot for RDPD shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in installing the RDPD, complete in place, including shelf excavation and backfill, and maintenance, as shown on the plans, and in these special provisions, and as directed by the Engineer.