Vegetation Barriers Around Headwalls of Edge Drains

Purpose and Need
The present practice to outlet drainage pipe is to place a 4" PVC outlet pipe approximately every 250 feet. This 4" PVC discharge pipe is capped with a headwall splash block, which often becomes blocked with debris to the point where it hinders the drainage system.

Objective
The objective of this experimental feature is to determine if constructing vegetation barriers around the headwalls of edge drain systems would help solve the problem of vegetation and debris from blocking the drain.

Scope
Construction of two types of head wall barriers on three projects across the state will provide performance data needed for a full evaluation. Three projects have been selected to receive the vegetation barriers. IM-8-029(025)053 Mile 58 to 59, IM-2-094(016)240 Mile 243 to 244, and IM-5-094(008)071 Mile 76 to 77. The evaluation will include construction costs, construction problems, performance, advantages/disadvantages, and amount of vegetation and debris in each type of section.

Summary
The vegetation barriers were designed to include an 18-inch wide band of either aggregate or concrete around the headwall. The evaluation will be divided into three parts: one year after construction, and two years after construction. The first year will be a period of establishment of vegetation and debris build-up. Each project will be briefly summarized.

- Aggregate vegetation barriers:
  - The vegetation barriers look good after the fifth year of operation. Vegetation is growing out of the aggregate barriers in 20 out of 21. Some sediment is building up behind the screens in some headwalls. The biggest problem is the vegetation growing in the aggregate barriers. The vegetation growth in aggregate barriers covers 45 to 90 percent of the barrier. No mowing problems were encountered with the experimental vegetation barriers.

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