

**ASAE EP407.3 AUG2024**  
**Agricultural Drainage Outlet— Open Channel**



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# **Agricultural Drainage Outlet — Open Channel**

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**Keywords:** Channels, Drainage

## **1 Purpose and Scope**

**1.1** The purpose of this Engineering Practice is to provide planning, design, construction and maintenance information and criteria for agricultural drainage outlets by means of open channels. Drainage, so provided, will enhance agricultural production and protect environmental resources. This Engineering Practice is compatible with ASAE EP302, Design and Construction of Surface Drainage Systems on Agricultural Lands in Humid Areas, and ASAE EP260 Design and Construction of Subsurface Drainage Systems on Agricultural Lands in Humid Areas.

**1.2** This Engineering Practice covers all engineering phases of open-channel planning, design, construction, and maintenance for projects within the following limits:

**1.2.1** Watersheds larger than 2.6 km<sup>2</sup> (1 mile<sup>2</sup>) and smaller than 260 km<sup>2</sup> (100 mile<sup>2</sup>) with average slopes generally less than 4.7 m/km (25 ft/mile).

**1.2.2** Channels excavated in earthen material, to convey design flows within banks and to be stable and maintainable.

**1.2.3** Channel work that will not have a serious impact on significant environmental resources and adverse effects will be minimized.

**1.2.4** Project development that will be physically and economically sound, environmentally and socially acceptable and compatible with long-term use of natural resources.

## **2 Normative References**

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies unless noted. For undated references, the latest approved edition of the referenced document (including any amendments) applies.

ANSI/ASAE EP302.3, Design and Construction of Surface Drainage Systems on Agricultural Lands in Humid Areas

ANSI/ASAE S318, Safety for Agricultural Field Equipment

ASAE EP260 Design and Construction of Subsurface Drainage Systems on Agricultural Lands in Humid Areas

US Geological Survey. 1967. Water-supply Paper #1849. Roughness characteristics of natural channels.

USDA, Soil Conservation Service. 1977. Technical Release No. 25. Design of open channels